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ABSTRACT

This journal is devoted to the needs and interests of the school and college music teachers of Missouri and the United States. Articles in Volume 4, Number 1 are: "Index of Articles in the 'Colorado Journal of Research in Music Education,' 1964-1973" (S. Deich); "Index of Articles in the 'Missouri Journal of Research in Music Education,' 1962-1976" (S. Deich); "Index of Articles in the 'Contributions to Music Education,' Ohio Music Education Association, 1972-1976" (S. Deich); "Index of Articles in the 'Bulletin of Research in Music Education,' Pennsylvania Music Educators Association, 1970-1976" (S. Deich); and "Selected Abstracts in Music Education" (n=9). Articles in Volume 4, Number 2 are: "A Curriculum for Teaching Musicianship to Secondary School Students: Composing, Listening, Analyzing and Performing" (L. B. Hilton); "Retention of Songs, Stories, and Poems by Retarded Children" (W. Lathom); "The Relationships of Selected Academic, Musical, and Background Factors to Grades Obtained in Undergraduate Music Theory and Ear Training Courses" (S. J. Emig); "American Tune Book Compilations Using Shaped-Note Systems, 1801-1860, A Forerunner of American Music Education" (D. L. Oakley); and "Selected Abstracts in Music Education" (n=11). Articles in Volume 4, Number 3 are: "Music as Reinforcement in Increasing Spontaneous Speech among Autistic Children" (D. Watson); "A Study of Several Methods of Handling the Boy's Changing Voice" (F. R. Willman); "The Effect of Training in Interaction Analysis on the Verbal Teaching Behaviors and Attitudes of School Instrumental Music Education Students Studying Conducting" (C. E. Hicks); "The Child-Centered vs. The Adult-Centered Rationale: A Dualistic Approach to the Use of Philosophy in Curriculum Development with Special Application to Music Education" (R. Boyer); and "Selected Abstracts in Music Education" (n=12). Articles in Volume 4, Number 4 are: "A Philosophy for Group Piano Instruction Based upon Learning Theory and Group Interaction Theory" (D. Montano); "The Development of American Public School Elementary String Classes and Orchestras to 1950" (J. E. Hoisington); "The Role of Ethnomusicology in Music Education" (L. B. Hilton); and "Selected Abstracts in Music Education" (n=9). Articles in

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Volume 4, Number 5 are: "A Survey of the Evolution and Development of the Horn Style" (E. J. Bostley); "The Effect of Approval, Disapproval, and Teacher Error on Classroom Attentiveness: High School Band versus High School Chorus" (D. E. Moyer); "A Comparison of Frequency Discernment Abilities" (O. G. Parker); "Editorial Perspectives in Sunday School Hymnals Published between 1859 and 1898 which Reflect Educational Philosophy and Practice" (M. Voogt); "A Position Paper--Toward Knowing and Liking Musical Styles: The Heuristic Method" (P. K. Shehan); and "Selected Abstracts in Music Education" (n=8). (BT)

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# Missouri Journal of Research in Music Education, 1977-1981

Jack R. Stephenson, Editor

Volume 4, Numbers 1-5

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# MISSOURI JOURNAL OF RESEARCH IN MUSIC EDUCATION

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me IV 1977 Number 1

I. Index of Articles in the Colorado Journal of Research in Music Education, 1964-1973 by Susan Deich, Washington University . . . . 7

II. Index of Articles in the Missouri Journal of Research in Music Education, 1962-1976 by Susan Deich, Washington University . . . . 24

II. Index of Articles in the Contributions to Music Education, Ohio Music Education Association, 1972-1976 by Susan Deich, Washington University . . . . . . . . . . . 77

IV. Index of Articles in the Bulletin of Research in Music Education, Pennsylvania Music Educators Association, 1970-1976 by Susan Deich, Washington University . . . . 88

V. Selected Abstracts in Music Education . . . . 113

A. Healey Willan: The Independent Organ Works
Joylin Campbell-Yukl, University of Missouri-Kansas City . . . . . . . . . 113

B. An Evaluation of G. F. Handel's Use of the Oboe in his Arias
Sara A. Funkhouser, University of Missouri-Kansas City . . . . . . . . . . . 115

C. Don Agostino Scozzese's Il Primo Libro di Madrigali a 5 Voci
William J. Gillis, University of Missouri-Kansas City . . . . 117

D. Golden Mean Proportion in Nine of the First Movements of the Beethoven Piano-Violin Sonatas
Beth L. Hurlburt, University of Missouri-Kansas City . . . . 118

E. Effect of a Systematic Instrumental Model on Musical Concept Development by Four-Year-Old Children
June Thomsen Jetter, Faculty, University of Missouri-Kansas City . . . . . . . . . . 120

F. A Biography of Niccolo Piccinni and a Critical Study of His La Didone and Didon
Margaret McGinness Liggett, Washington University . . . . . 122

G. Musical Time and Time Signatures and Their Relation to Horological Developments in the Seventeenth Century
Ellen TeSelle-Boal, Washinton University . . . . . . . . 124

H. Stromenti da Tirarsi in the Cantatas of J. S. Bach
Darrell Urban, Washington University . . . . . . . . . . 125

I. A Program for Teaching Musicianship in the First Year of Class String Instruction
Charles Lester Wentworth . . . . 127

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Telephone: 816 276-2731

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# PREFACE

The Missouri Journal of Research in Music Education, published by the Missouri Music Educators Association, is devoted to the needs and interests of teachers of music in Missouri and the nation. This issue, Volume IV, Number 1, is the sixteenth to appear in as many years.

The members of the Editorial Committee are grateful to those readers who have written suggestions concerning the content of past issues and request that criticisms and suggestions again be sent to the Editor concerning the content of this issue. We strive for a reasonable balance among music theory, history, philosophy, aesthetics, and pedagogy.

We express our deep gratitude to the Missouri Music Educators Association for their financial support to make it possible to continue to publish the Missouri Journal of Research in Music Education.

The Editorial Board

The following indices of articles from the *Colorado Journal of Research in Music Education*, *Missouri Journal of Research in Music Education*, *Contributions to Music Education*, and *Bulletin of Research in Music Education* (Pennsylvania) are presented here in the format devised by the compiler. Author, title, and subject indices are given in a separate compilation for each *Journal*. Abstracts of, or reports based on, dissertations or theses are identified by one asterisk (*)indicating dissertation and two asterisks (**) indicating thesis. The number of the beginning page of the article and the year of publication in the respective *Journal* are given for each entry. Readers should note that the compiler enters reviews of books under the name of the reviewer rather than the author of the book.

The Editors

# INDEX OF ARTICLES APPEARING IN THE COLORADO JOURNAL OF RESEARCH IN MUSIC EDUCATION 1964-1973

## TABLE OF CONTENTS

AUTHOR . . . . . . . . . . . . . . . . . . . . . . . . . . 8

TITLE . . . . . . . . . . . . . . . . . . . . . . . . . . 12

SUBJECT . . . . . . . . . . . . . . . . . . . . . . . . . 16
  Acoustics . . . . . . . . . . . . . . . . . . . . . . . 16
  Aesthetics . . . . . . . . . . . . . . . . . . . . . . 16
  Cataloging and Classification . . . . . . . . . . . 16
  Continuing Education . . . . . . . . . . . . . . . . 17
  Curriculum Development . . . . . . . . . . . . . . . 17
  Development, Maturation . . . . . . . . . . . . . . 17
  Elementary Education . . . . . . . . . . . . . . . . 17
  Ethnology . . . . . . . . . . . . . . . . . . . . . . 18
  Evaluation, Measurement . . . . . . . . . . . . . . 18
  Higher Education . . . . . . . . . . . . . . . . . . 19
  History . . . . . . . . . . . . . . . . . . . . . . . 19
  Instructional Material . . . . . . . . . . . . . . . 19
  Instrumental Music . . . . . . . . . . . . . . . . . 20
  Methods and Philosophies of Research . . . . . . . 21
  New Media . . . . . . . . . . . . . . . . . . . . . . 21
  Psychological Studies . . . . . . . . . . . . . . . 21
  Special Education . . . . . . . . . . . . . . . . . 22
  Status Studies . . . . . . . . . . . . . . . . . . . 22
  Teaching Methods . . . . . . . . . . . . . . . . . . 22
  Vocal/Choral . . . . . . . . . . . . . . . . . . . . 23

## AUTHOR

BOSTROM, MARVIN J., Contemporary Music in Europe: A Comprehensive Survey. Fiftieth Anniversary Issue of the Musical Quarterly. (p. 9/1966)

BOSTROM, MARVIN J., Instructions to the Teacher in Schuster's Clavierstunden Fur Kinder, 1799-1800. (p. 18/1964)

BOWIE, GORDON., Choice of Music and Teaching of Musical Knowledge in the Band Rehearsal. (p. 14/1973)

BUSCH, STEPHEN E., Doctoral Dissertations in Music and Music Education, 1957-1963. Compiled by Roderick D. Gordon. (p. 40/1965)

BUSCH, STEPHEN E., Programmed Music Instruction: Some Structural Elements and General Characteristics and their Relation to Two Recent Research Studies. (p. 40/1964)

CAMPBELL, ALEX B., Music Curriculum Guides. By Harold W. Arberg. (p. 38/1965)

*CAMPBELL, ALEX B., A Survey and Evaluation of Current Methods, Techniques, and Content in Vocal Performing Groups in Selected Secondary Schools in Wyoming. By Alice Mary Ramer. (p. 9/1968)

*CAMPBELL, JAY J., A Comparison of Two Distributed Instructional Periods in the Teaching of Beginning Instrumental Music Students. By Carroll A. Childs. (p. 52/1964)

*CHILDS, GORDON B., Baroque String Chamber Works Incorporating Techniques Essential to the Development of Performing Ability by Violinists. By Roscoe M. Booth. (p. 45/1965)

CLENDENIN, WILLIAM R., Music Reference and Research Materials. Compiled by Vincent Duckles. (p. 35/1965)

GEORGE, MARVIN, Music Research Handbook. By Hazel B. Morgan and Clifton A. Burmeister. (p. 39/1965)

GREENE, ALLEN W., An Introduction to Library Resources for Music Research. By Keith E. Mixter. (p. 37/1965)

* HAMMER, HARRY, A Comparison of Three Methods for Improving Intonation in the Performance of Instrumental Music. By William L. Graves, Jr. (p. 49/1964)

HARBOLD, MARY L., A Summary of Current Developments in Musical Acoustics. (p. 13/1965)

HOCKENBERRY, E'RENA, Teaching a Familiarity with the Instruments of the Orchestra in the Elementary School. (p. 37/1964)

JOHN, ROBERT W., Pure Research in Music Education. (p. 5/1964)

* JUHAS, EARL A., A Study of Instrumental Music Dropouts of the Moline (Illinois) Schools. By G. James Casey, Jr. (p. 42/1965)

KAPLA, PEGGY S., Rhythm and Music Experiences for the Hearing-Handicapped Child. (p. 30/1964)

KEARNS, WILLIAM, Hillbilly Music as a Tool. (p. 1/1973)

KING, RALPH, Measurement and Evaluation in Music. By William E. Whybrew. (p. 36/1965)

KLAUSMAN, GRANT J., A Brief History of the National School Music Contests. (p. 5/1966)

* LEHMAN, PAUL, An Investigation of Music Education at the University of Colorado Including a Follow-up of Graduates. By Clair Woodward. (p. 52/1964)

LEHMAN, PAUL R., The Contributions of Guido D'Arezzo to Music Education. (p. 3/1966)

LEHMAN, PAUL R., A Study of the Extent to Which Music Courses Fulfill the Entrance Requirements of Colorado Colleges and Universities. (p. 35/1964)

LEHMAN, PAUL R., Support for Research in Music Education in Colorado. (p. 29/1965)

*LENICHELK, E., Ed., The Adaptation of Selected American Folk Tunes for Solo Trumpet with Instrumental Accompaniment. By Lawrence J. Meyer. (p. 47/1965)

*LEVY, RALPH W., A Critical Analysis of the Minnesota District and State Band Contest-Festival System with Implications for Its Improvement. By Harold E. Krueger. (p. 41/1965)

MARTYN, CHARLES F., Recent Research on Clarinet Reeds and Mouthpieces. (p. 22/1964)

McCARTHY, KEVIN J., Tradition in Transition. (p. 19/1973)

MEYER, LEO, Music and Art in the Public Schools. NEA Research Monograph. (p. 34/1965)

*MONSOUR, SALLY, The Music of the Sioux Indian of the Rosebud Reservation in South Dakota and Its Use in the Elementary School. By James William Jurrens. (p. 9/1968)

NISBETT, ROBERT F., Office of Education Support for Research and Related Activities. (p. 9/1968)

OFEI, PATRICK, Music in West Africa. (p. 22/1973)

PARSONS, JOHN N., String Music in Print. By Margaret K. Farish. (p. 9/1966)

PELLERIN, NINA S., The Measurement of Music Achievement with a Unique Evaluative Instrument. (p. 7/1964)

PFLEDERER, MARILYN, Research: An Aid in Planning for Music Reading Experiences. (p. 1/1966)

PHELPS, ROGER P., Some Observations Relative to Research in Music Education. (p. 5/1965)

*REEVES, WILLIAM N., A Comparative Study of Certain Aspects of Music Instruction in Selected Elementary Schools of the United States and Great Britain. By Maynard C. Anderson. (p. 50/1964)

*REEVES, WILLIAM N., Kansas Music Educators Association: The Establishment, Development, and Philosophy of Music Education. By Leland D. Crapson. (p. 42/1965)

SANDFORD, GORDON, Higher Education: How the Office of Education Assists College Students and Colleges. (p. 8/1968)

SANDFORD, GORDON, A Sermon on Music from 1771. (p. 4/1968)

SEARS, MARGARET F., The Tape Recorder Employed in the Development of Children's Singing: An Experimental Study. (p. 8/1965)

SEAY, ALBERT, Musical Instruments: A Comprehensive Dictionary. By Sybyl Marcuse. (p. 33/1965)

*SMITH, JERRY N., The Designation of the Appropriate Grade Level for Beginning Instrumental Study. By E. Duane Strachan. (p. 46/1965)

STEWART, FRANK GRAHAM, Teaching Music. (p. 5/1968)

WALKER, CHERYL-LYNN, Colorado's Community Orchestras. (p. 28/1964)

WEERTS, RICHARD K., Recommendations for Increased Effectiveness in the Memorization of Music. (p. 26/1965)

WILCOXSON, IDA, Faster Learning Through Singable Materials. (p. 26/1964)

WILSON, KAY, History of Selected Songs of the American Civil War. (p. 23/1965)

ZIMMERMAN, ALEX H., Music in Our Schools: A Search for Improvement. Prepared by Claude V. Palisca. (p. 32/1965)

ZIMMERMAN, MARILYN PFLEDERER, Musical Concepts Formation: A Review of the Research Literature. (p. 1/1968)

TITLE

*THE ADAPTATION OF SELECTED AMERICAN FOLK TUNES FOR SOLO TRUMPET WITH INSTRUMENTAL ACCOMPANIMENT. By Lawrence J. Meyer. Rev. by Lenichelk, E., Ed. (p. 47/1965)

*BAROQUE STRING CHAMBER WORKS INCORPORATING TECHNIQUES ESSENTIAL TO THE DEVELOPMENT OF PERFORMING ABILITY BY VIOLINISTS. By Roscoe M. Booth. Rev. by Childs, Gordon B. (p. 45/1965)

A BRIEF HISTORY OF THE NATIONAL SCHOOL MUSIC CONTESTS – Klausman, Grant J. (p. 5/1966)

CHOICE OF MUSIC AND TEACHING OF MUSICAL KNOWLEDGE IN THE BAND REHEARSAL – Bowie, Gordon. (p. 14/1973)

COLORADO'S COMMUNITY ORCHESTRAS – Walker, Cheryl-Lynn. (p. 28/1964)

*A COMPARISON OF THREE METHODS FOR IMPROVING INTONATION IN THE PERFORMANCE OF INSTRUMENTAL MUSIC. By William L. Graves, Jr., Rev. by Hammer, Harry. (p. 49/1964)

*A COMPARISON OF TWO DISTRIBUTED INSTRUCTIONAL PERIODS IN THE TEACHING OF BEGINNING INSTRUMENTAL MUSIC STUDENTS. By Carroll A. Childs. Rev. by Campbell, Jay J. (p. 52/1964)

*A COMPARATIVE STUDY OF CERTAIN ASPECTS OF MUSIC INSTRUCTION IN SELECTED ELEMENTARY SCHOOLS OF THE UNITED STATES AND GREAT BRITAIN. By Maynard C. Anderson. Rev. by Reeves, William N. (p. 50/1964)

CONTEMPORARY MUSIC IN EUROPE: A COMPREHENSIVE SURVEY. FIFTIETH ANNIVERSARY ISSUE OF THE MUSICAL QUARTERLY. Rev. by Bostrom, Marvin J. (p. 9/1966)

THE CONTRIBUTIONS OF GUIDO D'AREZZO TO MUSIC EDUCATION – Lehman, Paul R. (p. 3/1966)

*A CRITICAL ANALYSIS OF THE MINNESOTA DISTRICT AND STATE BAND CONTEST-FESTIVAL SYSTEM WITH IMPLICATIONS FOR ITS IMPROVEMENT. By Harold E. Krueger. Rev. by Levy, Ralph W. (p. 41/1965)

*THE DESIGNATION OF THE APPROPRIATE GRADE LEVEL FOR BEGINNING INSTRUMENTAL STUDY. By E. Duane Strachan. Rev. by Smith, Jerry N. (p. 46/1965)

DOCTORAL DISSERTATIONS IN MUSIC AND MUSIC EDUCATION, 1957-1963. Compiled by Roderick D. Gordon. Rev. by Busch, Stephen E. (p. 40/1965)

FASTER LEARNING THROUGH SINGABLE MATERIALS – Wilcoxson, Ida (p. 26/1964)

HIGHER EDUCATION: HOW THE OFFICE OF EDUCATION ASSISTS COLLEGE STUDENTS AND COLLEGES – Sandford, Gordon. (p. 8/1968)

HILLBILLY MUSIC AS A TOOL – Kearns, William. (p. 1/1973)

HISTORY OF SELECTED SONGS OF THE AMERICAN CIVIL WAR – Wilson, Kay. (p. 23/1965)

INSTRUCTIONS TO THE TEACHER IN SCHUSTER'S CLAVIERSTUNDEN FUR KINDER, 1799-1800 – Bostrom, Marvin J. (p. 18/1964)

AN INTRODUCTION TO LIBRARY RESOURCES FOR MUSIC RESEARCH BY Keith E. Mixter. Rev. by Greene, Allen W. (p. 37/1965)

*AN INVESTIGATION OF MUSIC EDUCATION AT THE UNIVERSITY OF COLORADO INCLUDING A FOLLOW-UP OF GRADUATES. By Clair Woodward. Rev. by Lehman, Paul. (p. 52/1964)

*KANSAS MUSIC EDUCATORS ASSOCIATION: THE ESTABLISHMENT, DEVELOPMENT, AND PHILOSOPHY OF MUSIC EDUCATION. By Leland D. Crapson. Rev. by Reeves, William N. (p. 44/1965)

MEASUREMENT AND EVALUATION IN MUSIC. By William E. Whybrew. Rev. by King, Ralph. (p. 36/1965)

THE MEASUREMENT OF MUSIC ACHIEVEMENT WITH A UNIQUE EVALUATIVE INSTRUMENT — Pellerin, Nina S. (p. 7/1964)

MUSIC AND ART IN THE PUBLIC SCHOOLS. NEA Research Monograph -- Meyer, Leo. (p. 34/1965)

MUSIC CURRICULUM GUIDES. By Harold W. Arberg. Rev. by Campbell, Alex B. (p. 38/1965)

MUSIC IN OUR SCHOOLS: A SEARCH FOR IMPROVEMENT. Prepared by Claude V. Palisca. Rev. by Zimmerman, Alex H. (p. 32/1965)

MUSIC IN WEST AFRICA — Ofei, Patrick. (p. 22/1973)

THE MUSIC OF THE SIOUX INDIAN OF THE ROSEBUD RESERVATION IN SOUTH DAKOTA AND ITS USE IN THE ELEMENTARY SCHOOL. By James William Jurrens. Rev. by Monsour, Sally. (p. 9/1968)

MUSIC REFERENCE AND RESEARCH MATERIALS. Compiled by Vincent Duckles. Rev. by Clendenin, William R. (p. 35/1965)

MUSIC RESEARCH HANDBOOK. By Hazel B. Morgan and Clifton A. Brumeister. Rev. by George, Marvin. (p. 39/1965)

MUSICAL CONCEPT FORMATION: A REVIEW OF THE RESEARCH LITERATURE — Zimmerman, Marilyn Pflederer. (p. 1/1968)

MUSICAL INSTRUMENTS: A COMPREHENSIVE DICTIONARY. By Sibyl Marcuse. Rev. by Seay, Albert. (p. 33/1965)

OFFICE OF EDUCATION SUPPORT FOR RESEARCH AND RELATED ACTIVITIES — Nisbett, Robert F. (p. 9/1968)

PROGRAMMED MUSIC INSTRUCTION: SOME STRUCTURAL ELEMENTS AND GENERAL CHARACTERISTICS AND THEIR RELATION TO TWO RECENT RESEARCH STUDIES — Busch, Stephen E. (p. 40/1964)

PURE RESEARCH IN MUSIC EDUCATION -- John, Robert W. (p. 5/1964)

REACHING A FAMILIARITY WITH THE INSTRUMENTS OF THE ORCHESTRA IN THE ELEMENTARY SCHOOL — Hockenberry, E'Rena. (p. 37/1964)

RECENT RESEARCH ON CLARINET REEDS AND MOUTHPIECES — Martyn, Charles F. (p. 22/1964)

RECOMMENDATIONS FOR INCREASED EFFECTIVENESS IN THE MEMORIZATION OF MUSIC — Weerts, Richard K. (p. 26/1965)

RESEARCH: AN AID IN PLANNING FOR MUSIC READING EXPERIENCES -- Pflederer, Marilyn. (p. 1/1966)

RHYTHM AND MUSIC EXPERIENCES FOR THE HEARING-HANDICAPPED CHILD — Kapla, Peggy S. (p. 30/1964)

A SERMON ON MUSIC FROM 1771 — Sandford, Jordon. (p. 4/1968)

SOME OBSERVATIONS RELATIVE TO RESEARCH IN MUSIC EDUCATION -- Phelps, Roger P. (p. 5/1965)

STRING MUSIC IN PRINT. By Margaret K. Farish. Rev. by Parsons, John N. (p. 9/1966)

*A STUDY OF INSTRUMENTAL MUSIC DROPOUTS OF THE MOLINE (ILLINOIS) SCHOOLS. By G. James Caset, Jr. Rev. by Juhas, Earl A. (p. 42/1965)

A STUDY OF THE EXTENT TO WHICH MUSIC COURSES FULFILL THE ENTRANCE REQUIREMENTS OF COLORADO COLLEGES AND UNIVERSITIES — Lehman, Paul R. (p. 35/1964)

A SUMMARY OF CURRENT DEVELOPMENT IN MUSICAL ACOUSTICS — Harbold, Mary L. (p. 13/1965)

*KANSAS MUSIC EDUCATORS ASSOCIATION: THE ESTABLISHMENT, DEVELOPMENT, AND PHILOSOPHY OF MUSIC EDUCATION. By Leland D. Crapson. Rev. by Reeves, William N. (p. 44/1965)

*MEASUREMENT AND EVALUATION IN MUSIC*. By William E. Whybrew. Rev. by King, Ralph. (p. 36/1965)

THE MEASUREMENT OF MUSIC ACHIEVEMENT WITH A UNIQUE EVALUATIVE INSTRUMENT — Pellerin, Nina S. (p. 7/1964)

*MUSIC AND ART IN THE PUBLIC SCHOOLS*. NEA Research Monograph -- Meyer, Leo. (p. 34/1965)

*MUSIC CURRICULUM GUIDES*. By Harold W. Arberg. Rev. by Campbell, Alex B. (p. 38/1965)

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MUSIC IN WEST AFRICA — Ofei, Patrick. (p. 22/1973)

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MUSICAL CONCEPT FORMATION: A REVIEW OF THE RESEARCH LITERATURE — Zimmerman, Marilyn Pflederer. (p. 1/1968)

*MUSICAL INSTRUMENTS: A COMPREHENSIVE DICTIONARY*. By Sibyl Marcuse. Rev. by Seay, Albert. (p. 33/1965)

*OFFICE OF EDUCATION SUPPORT FOR RESEARCH AND RELATED ACTIVITIES* — Nisbett, Robert F. (p. 9/1968)

PROGRAMMED MUSIC INSTRUCTION: SOME STRUCTURAL ELEMENTS AND GENERAL CHARACTERISTICS AND THEIR RELATION TO TWO RECENT RESEARCH STUDIES — Busch, Stephen E. (p. 40/1964)

PURE RESEARCH IN MUSIC EDUCATION -- John, Robert W. (p. 5/1964)

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RECENT RESEARCH ON CLARINET REEDS AND MOUTHPIECES — Martyn, Charles F. (p. 22/1964)

RECOMMENDATIONS FOR INCREASED EFFECTIVENESS IN THE MEMORIZATION OF MUSIC — Weerts, Richard K. (p. 26/1965)

RESEARCH: AN AID IN PLANNING FOR MUSIC READING EXPERIENCES -- Pflederer, Marilyn. (p. 1/1966)

RHYTHM AND MUSIC EXPERIENCES FOR THE HEARING-HANDICAPPED CHILD — Kapla, Peggy S. (p. 30/1964)

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STRING MUSIC IN PRINT. By Margaret K. Farish. Rev. by Parsons, John N. (p. 9/1966)

*A STUDY OF INSTRUMENTAL MUSIC DROPOUTS OF THE MOLINE (ILLINOIS) SCHOOLS. By G. James Caset, Jr. Rev. by Juhas, Earl A. (p. 42/1965)

A STUDY OF THE EXTENT TO WHICH MUSIC COURSES FULFILL THE ENTRANCE REQUIREMENTS OF COLORADO COLLEGES AND UNIVERSITIES — Lehman, Paul R. (p. 35/1964)

A SUMMARY OF CURRENT DEVELOPMENT IN MUSICAL ACOUSTICS — Harbold, Mary L. (p. 13/1965)

SUPPORT FOR RESEARCH IN MUSIC EDUCATION IN COLORADO — Lehman, Paul R. (p. 29/1965)

*A SURVEY AND EVALUATION OF CURRENT METHODS, TECHNIQUES, AND CONTENT IN VOCAL PERFORMING GROUPS IN SELECTED SECONDARY SCHOOLS IN WYOMING. By Alice Mary Ramer. Rev. by Campbell, Alex B. (p. 9/1968)

THE TAPE RECORDER EMPLOYED IN THE DEVELOPMENT OF CHILDREN'S SINGING: AN EXPERIMENTAL STUDY. Sears, Margaret F. (p. 8/1965)

TEACHING MUSIC — Stewart, Frank Graham. (p. 5/1968)

TRADITION IN TRANSITION — McCarthy, Kevin J. (p. 19/ 1973)

## SUBJECT

### ACOUSTICS

Harbold, Mary L., A Summary of Current Developments in Musical Acoustics. (p. 13/1965)

### AESTHETICS

Stewart, Frank Graham, Teaching Music. (p. 5/1968)

### CATALOGING AND CLASSIFICATION

Busch, Stephen E., Doctoral Dissertations in Music and Music Education, 1957-1963. Compiled by Roderick D. Gordon, 40/65

*Childs, Gordon B., Baroque String Chamber Works Incorporating Techniques Essential to the Development of Performing Ability by Violinists. By Roscoe M. Booth. (p. 45/1965)

Parsons, John N., String Music in Print. By Margaret K. Farish. (p. 9/1966)

## CONTINUING EDUCATION

Walker, Cheryl-Lynn, Colorado's Community Orchestras. (p. 28/1964)

## CURRICULUM DEVELOPMENT

Bowie, Gordon, Choice of Music and Teaching of Musical Knowledge in the Band Rehearsal. (p. 14/1973)

Campbell, Alex B., Music Curriculum Guides. By Harold W. Arberg. (p. 38/1965)

Pflederer, Marilyn, Research: An Aid in Planning for Music Reading Experiences. (p. 1/1966)

Stewart, Frank Graham, Teaching Music. (p. 5/1968)

Zimmerman, Alex H., Music in Our Schools: A Search for Improvement. Prepared by Claude V. Palisca. (p. 32/1965)

Zimmerman, Marilyn Pflederer, Musical Concept Formation: A Review of the Research Literature. (p. 1/1968)

## DEVELOPMENT, MATURATION

Zimmerman, Marilyn Pflederer, Musical Concept Formation: A Review of the Research Literature. (p. 1/1968)

## ELEMENTARY EDUCATION

*Campbell, Jay J., A Comparison of Two Distributed Instructional Periods in the Teaching of Beginning Instrumental Music Students. By Carroll A. Childs. (p. 52/1964)

Hockenberry, E'Rena, Teaching a Familiarity with the Instruments of the Orchestra in the Elementary School. (p. 37/1964)

*Monsour, Sally, The Music of the Sioux Indian of the Rosebud Reservation in South Dakota and Its Use in the Elementary School. By James William Jurrens. (p. 9/1968)

*Reeves, William N., A Comparative Study of Certain Aspects of Music Instruction in Selected Elementary Schools of the United States and Great Britain. By Maynard C. Anderson. (p. 50/1964)

Sears, Margaret F., The Tape Recorder Employed in the Development of Children's Singing: An Experimental Study. (p. 8/1965)

Wilcoxson, Ida, Faster Learning Through Singable Materials. (p. 26/1964)

ETHNOLOGY

Kearns, William, Hillbilly Music as a Tool. (p. 1/1973)

*Monsour, Sally, The Music of the Sioux Indian of the Rosebud Reservation in South Dakota and Its Use in the Elementary School. By James William Jurrens. (p. 9/1968)

Ofei, Patrick, Music in West Africa. (p. 22/1973)

EVALUATION, MEASUREMENT

King, Ralph, *Measurement and Evaluation in Music*. By William E. Mhybrew. (p. 36/1965)

Pellerin, Nina S., The Measurement of Music Achievement with a Unique Evaluative Instrument. (p. 7/1964)

*Reeves, William N., A Comparative Study of Certain Aspects of Music Instruction in Selected Elementary Schools of the United States and Great Britain. By Maynard C. Anderson. (p. 50/1964)

## HIGHER EDUCATION

Busch, Stephen E., Doctoral Dissertations in Music and Music Education, 1957-1963. Compiled by Roderick D. Gordon. (p. 40/1965)

*Lehman, Paul, An Investigation of Music Education at the University of Colorado Including a Follow-up of Graduates, by Clair Woodward. (p. 52/1964)

Sandford, Gordon, Higher Education: How the Office of Education Assists College Students and Colleges. (p. 8/1968)

## HISTORY

Bostrom, Marvin J., Instruction to the Teacher in Schuster's Clavierstunden Fur Kinder, 1799-1800. (p. 18/1964)

Klausman, Grant J., A Brief History of the National School Music Contests. (p. 5/1966)

Lehman, Paul R., The Contributions of Guido D'Arezzo to Music Education. (p. 3/1966)

*Reeves, William N., Kansas Music Educators Association: The Establishment, Development, and Philosophy of Music Education. By Leland D. Crapson. (p. 42/1965)

Sandford, Gordon, A Sermon on Music from 1771. (p. 4/1968)

Wilson, Kay, History of Selected Songs of the American Civil War. (p. 23/1965)

## INSTRUCTIONAL MATERIAL

Bowie, Gordon, Choice of Music and Teaching of Musical Knowledge in the Band Rehearsal. (p. 14/1973)

Campbell, Alex B., Music Curriculum Guides. By Harold W. Arberg. (p. 38/1965)

## INSTRUMENTAL MUSIC

*Campbell, Jay J., A Comparison of Two Distributed Instructional Periods in the Teaching of Beginning Instrumental Music Students. By Caroll A. Childs. (p. 52/1964)

*Childs, Gordon B., Baroque String Chamber Works Incorporating Techniques Essential to the Development of Performing Ability by Violinists. By Roscoe M. Booth. (p. 45/1965)

*Hammer, Harry, A Comparison of Three Methods for Improving Intonation in the Performance of Instrumental Music. By William L. Graves, Jr. (p. 49/1964)

*Juhas, Earl A., A Study of Instrumental Music Drop-outs of the Moline (Illinois) Schools. By G. James Casey, Jr. (p. 43/1965)

*Lenichelk, E., Ed., The Adaptation of Selected American Folk Tunes for Solo Trumpet with Instrumental Accompaniment. By Lawrence J. Meyer. (p. 47/1965)

*Levy, Ralph W., A Critical Analysis of the Minnesota District and State Band Contest-Festival System with Implications for Its Improvement. By Harold E. Krueger. (p. 41/1965)

Martyn, Charles F., Recent Research on Clarinet Reeds and Mouthpieces. (p. 22/1964)

Parsons, John N., String Music in Print. By Margaret K. Farish. (p. 9/1966)

Seay, Albert, Musical Instruments: A Comprehensive Dictionary. By Sibyl Marcuse. (p. 33/1965)

*Smith, Jerry N., The Designation of the Appropriate Grade Level for Beginning Instrumental Study. By E. Duane Strachan. (p. 46/1965)

## METHODS AND PHILOSOPHIES OF RESEARCH

Clendenin, William R., Music Reference and Research Materials. Compiled by Vincent Duckles. (p. 35/1965)

George, Marvin, Music Research Handbook. By Hazel B. Morgan and Clifton A. Burmeister. (p. 39/1965)

Greene, Allen W., An Introduction to Library Resources for Music Research. By Keith E. Mixter. (p. 37/1965)

John, Robert W., Pure Research in Music Education. (p. 5/1964)

Lehman, Paul R., Support for Research in Music Education in Colorado. (p. 29/1965)

McCarthy, Kevin J., Tradition in Transition. (p. 19/1973)

Nisbett, Robert F., Office of Education Support for Research and Related Activities. (p. 9/1968)

Phelps, Roger P., Some Observations Relative to Research in Music Education. (p. 5/1965)

## NEW MEDIA

Sears, Margaret F., The Tape Recorder Employed in the Development of Children's Singing: An Experimental Study. (p. 8/1965)

## PSYCHOLOGICAL STUDIES

Campbell, Alex B., A Survey and Evaluation of Current Methods, Techniques, and Content in Vocal Performing Groups in Selected Secondary Schools in Wyoming. By Alice Mary Ramer. (p. 9/1968)

*Juhas, Earl A., A Study of Instrumental Music Drop-Outs of the Moline (Illinois) Schools. By G. James Casey, Jr. (p. 43/1965)

Lehman, Paul R., A Study of the Extent to Which Music Courses Fulfill the Entrance Requirements of Colorado Colleges and Universities. (p. 35/1964)

*Levy, Ralph W., A Critical Analysis of the Minnesota District and State Band Contest-Festival System with Implications for Its Improvement. By Harold E. Krueger. (p. 41/1965)

*Smith, Jerry N., The Designation of the Appropriate Grade Level for Beginning Instrumental Study. By E. Duane Strachan. (p. 46/1965)

Weerts, Richard K., Recommendations for Increased Effectiveness in the Memorization of Music. (p. 26/1965)

## SPECIAL EDUCATION

Kapla, Peggy S., Rhythm and Music Experiences for the Hearing-Handicapped Child. (p. 30/1964)

## STATUS STUDIES

Bostrom, Marvin J., *Contemporary Music in Europe: A Comprehensive Survey. Fiftieth Anniversary Issue of the Musical Quarterly*. (p. 9/1966)

Meyer, Leo, Music and Art in the Public Schools. NEA Research Monograph. (p. 34/1965)

Walker, Cheryl-Lynn, Colorado's Community Orchestras. (p. 28/1964)

## TEACHING METHODS

Bostrom, Marvin J., Instructions to the Teacher in Schuster's *Clavierstunden Fur Kinder*, 1799-1800. (p. 18/1964)

Busch, Stephen E., Programmed Music Instruction: Some Structural Elements and General Characteristics and Their Relation to Two Recent Research Studies. (p. 40/1964)

*Campbell, Alex B., A Survey and Evaluation of Current Methods, Techniques, and Content in Vocal Performing Groups in Selected Secondary Schools in Wyoming. By Alice Mary Ramer. (p. 9/1968)

Hockenberry, E'Rena, Teaching a Familiarity with the Instruments of the Orchestra in the Elementary School. (p. 37/1964)

VOCAL/CHORAL

*Campbell, Alex B., A Survey and Evaluation of Current Methods, Techniques, and Content in Vocal Performing Groups in Selected Secondary Schools in Wyoming. By Alice Mary Ramer. (p. 9/1968)

Sears, Margaret F., The Tape Recorder Employed in the Development of Children's Singing: An Experimental Study. (p. 9/1965)

Wilcoxson, Ida, Faster Learning Through Singable Materials. (p. 26/1964)

Wilson, Kay, History of Selected Songs of the American Civil War. (p. 23/1965)

# INDEX OF ARTICLES APPEARING IN THE
# MISSOURI JOURNAL OF RESEARCH IN MUSIC EDUCATION
# 1962-1976

## TABLE OF CONTENTS

- AUTHOR . . . . . 25
- TITLE . . . . . 38
- SUBJECT . . . . . 51
  - Aesthetics, Musical Taste, Appreciation, Humanities . . . . . 51
  - Allied Arts . . . . . 51
  - Analytical Studies . . . . . 52
  - Audio-Visual . . . . . 53
  - Career Education . . . . . 54
  - Compiling and Cataloging . . . . . 54
  - Curriculum Development . . . . . 55
  - Elementary Education . . . . . 59
  - Ethnology . . . . . 60
  - Higher Education . . . . . 60
  - History, Biography . . . . . 61
  - Instructional Materials . . . . . 63
  - Instructional Technology . . . . . 65
  - Instrumental Music Studies . . . . . 65
  - Interdepartmental . . . . . 67
  - Keyboard . . . . . 67
  - Research . . . . . 68
    - Affect, Attitude . . . . . 68
    - Development, Maturation . . . . . 68
    - Discrimination, Perception . . . . . 68
    - Evaluation, Measurement . . . . . 69
    - Methods and Philosophies . . . . . 70
    - Miscellaneous . . . . . 70
  - Secondary Education . . . . . 71
  - Special Education . . . . . 72
  - Status Studies . . . . . 72
  - Teacher Education . . . . . 73
  - Teaching Methods . . . . . 73
  - Vocal/Choral . . . . . 75

## AUTHOR

AMEDURI, RICHARD, The Derivation and Early History of the Saxophone. (p. 88/1972)

ANDERSON, DON, Missouri Music Educators Association and Action Research in the Schools of Missouri. (p. 5/1966)

ANDERSON, DON, Progress Report on the Action Research Project in the Schools of Missouri. (p. 3/1967)

ANDERSON, DONALD K., Survey of Musical Style for Band. (p. 41/1961)

AUTRY, MOLLIE ROSE, A Study of the Effect of Hand Signs in the Development of Sight Singing Skills. Dissertation Abstract. (p. 114/1976)

BALL, ROSALYN H., The Integration of Music Learnings in the Junior High Choral Class. (p. 80/1970)

BALL, ROSALYN, An Ungraded Guide to the Organization of the Elementary General Music Curriculum in the Public Schools. Dissertation Abstract. (p. 106/1973)

BEAN, SHIRLEY ANN, The Missouri Harmony 1812-1858: The Refinement of a Southern Tunebook. Dissertation Abstract. (p. 107/1973)

BERGER, MICHAEL E., Leopold Mozart's Partita in D: An Edition. Dissertation Abstract. (p. 78/1975)

BIRCH, THOMAS E., Musical Taste as Indicated by Records Owned by College Students with Varying High School Music Experiences. Dissertation Abstract. (p. 53/1962)

BJORSTROM, NEIL, Orthodonic Treatment as a Factor in the Selections and Performance of Brass Musical Instruments. (p. 31/1973)

BLECKSCHMIDT, ALFRED W., Pilot Experimental Programs for Developing High School Ensemble Music Classes (Band, Orchestra, Chorus) into Courses Representing an Academic Discipline. (p. 62/1968)

BLUM, MARTIN, Black Music: Pathmaker of the Harlem Renaissance. (p. 72/1974)

BODANSKE, WILLIAM H., Selected Conditions Associated with the Mobility of Missouri Secondary Public Schools. (p. 29/1979)

BOUGHTON, HARRISON C., Katherine K. Davis: Life and Work. (p. 84/1974)

BOWLING, DONALD, Research and Progress in the Allied Arts. (p. 37/1962)

BOYER, RENE, The Influence of Gestalt Psychology on Elementary Music Education and Pedagogy — Proposals for a Curriculum (K-6). (p. 6/1976)

BRAUN, WILLIAM R., The Uses of Pre-Existent Music in the Twentieth Century. Dissertation Abstract. (p. 79/1975)

BROOKS, TILFORD, The Black Musician in American Society. (p. 18/1970)

BROOKS, TILFORD, A Historical Study of Black Music and Selected Twentieth Century Black Composers and Their Role in American Society. Dissertation Abstract. (p. 115/1972)

BROWN, ELWOOD H., A Study of the Application of Creativity in the Teaching of Secondary School Music. Dissertation Abstract. (p. 112/1971)

BULGIN, LANSING, Music Student Teaching Practices in Missouri Colleges and Universities: A Preliminary Report. (p. 15/1964)

BURGSTAHLER, ELTON, Factors Influencing the Choice and Pursuance of a Career in Music Education: A Survey and Case Approach. Dissertation Abstract. (p. 53/1967)

BURK, JAMES M., The Development of a Methodology for Transcribing the Organ Music of Bach for Band. (p. 85/1971)

BURNAU, JOHN MARCUS, Factors Concerning the Production of the Musical in the High School. Dissertation Abstract. (p. 84/1969)

BURMEISTER, Clifton A., Directions for Improvement of Research in Music Education. (p. 5/1963)

BURTON, JAMES WILLIAM, A Comparison of Two Methods for Teaching Musical Form to Seventh Grade General Music Classes. (p. 29/1974)

BURTON, JAMES WILLIAM, A Comparison of Two Methods for Teaching Musical Form to Seventh Grade General Music Classes. Dissertation Abstract. (p. 81/1975)

CADY, HENRY, Research in Music Education: Functions and Constraints. (p. 4/1970)

CASEY, ROBERT LOWELL, Serial Compositions for Band. Dissertation Abstract. (p. 115/1971)

CEREGHINO, ROSEMARY CARNIGHAN, The Esthetic Theories of John Dewey and Their Effect on Music Education Practices of Today. (p. 47/1976)

COLEMAN, RUSSELL, Wind Instruments in the Seventeenth Century. (p. 5/1969)

COLLINS, THOMAS W., The Instrumental Music of Paul Pisk. Dissertation Abstract. (p. 113/1972)

COOK, BARBARA, Structural Learning and Music Reading. (p. 15/1965)

COOK, JUDITH KAY, The Effect of Model Instruction on Teaching the Musical Concept "Phrase" to Second Year Band Students. Dissertation Abstract. (p. 108/1971)

CRAMER, EUGENE C., A Selected List of Art Songs in French. (p. 39/1970)

CURTIS, STEPHEN MILNE, Mellange de Chansons: Transcribed and Edited, with Commentary. Dissertation Abstract. (p. 87/1975)

DOHERTY, CHARLES R., Twentieth Century Woodwind Quintet Music of the United States. Dissertation Abstract. (p. 108/1972)

DORN, STEPHEN, Sixteenth Century Polyphony. (p. 56/1963)

DUNCAN, CURTIS D., General Music: A Music Educators Proving Ground. (p. 51/1975)

ELIASON, ROBERT E., Brass Instrument Key and Valve Mechanisms made in America before 1875. Dissertation Abstract. (p. 81/1969)

ELLINGSON, DONALD, Automated Teaching System for Functional Piano Skills. (p. 7/1966)

FAULKNER, JEANE GISSENAAS, Taste, Music and Education. (p. 84/1967)

FELDT, JAMES VON, Music Teacher Classroom Technique Versus Computer-Assisted Instruction. Dissertation Abstract. (p. 110/1972)

GAGNEPAIN, JOAN THIES, Music Education and the Blind. (p. 39/1971)

GARCIA, RICHARD, A Study of the Effectiveness of Music Lessons Presented Via Closed Circuit Television as Compared with Lessons Presented Directly in the Class Room. (p. 72/1966)

GARCIA, RICHARD O., Teaching Music Classes Through Closed-Circuit Television. (p. 28/1963)

GAVER, WILLIAM D., Humanities, Integrated Arts and Aesthetic Education. (p. 95/1971)

GEDERS, SISTER ALPHONSE MARIE C.PP.S., A Method of Teaching Elementary Vocal Music Reading Based on Principles of Fixed Pitch. (p. 56/1962)

GEPHARDT, DONALD, The Significance of the Wind Ensemble in American Music Education. (p. 58/1973)

HAGAN, SISTER TOBIAS, Personalized Instruction: Some Reasons Why. (p. 11/1974)

HAGAN, SISTER MARY TOBIAS, The Structural Method of Teaching Music Listening Grades K-9. Dissertation Abstract. (p. 105/1973)

HAGAN, SISTER M. TOBIAS, The Structural Organization of the Subject Matter of Music for Elementary and Junior High Curricula. (p. 64/1972)

HAMILTON, JAMES C., Leith Stevens: A Critical Analysis of His Works. Dissertation Abstract. (p. 120/1976)

HANSFORD, CHARLES, An Appraisal of Group Singing of Sixth Graders, in Twenty-Five Elementary Schools, in a Midwestern City of One Hundred Thousand. (p. 42/1965)

HARRIS, CARL GORDON, JR., A Study of Characteristic Stylistic Trends Found in the Choral Works of a Selected Group of Afro-American Composers and Arrangers. Dissertation Abstract. (p. 114/1972)

HEADLEY, ERIN, Instruction in the Music Conservatories of St. Louis 1870-1930. (p. 43/1974)

HEGSTAD, JOSEPH, A Study of Interviewing Practices and Techniques Utilized in the Screening of Prospective Music Personnel in Departments of Music in Institutions of Higher Education. Dissertation Abstract. (p. 110/1971)

HILTON, LEWIS B., Individualized Instruction for General Music Classes Involving the Use of Slides Projected in Synchronization with Prerecorded Tape. (p. 49/1968)

HOFFER, CHARLES R., An Exploratory Study in a Use of the Violin and Recorder as Teaching Tools in Elementary School Music Classes. (p. 36/1965)

HUMMEL, DONALD AUSTIN, A Selected and Annotated Bibliography of Original Works for Trombone Trio. Dissertation Abstract. (p. 119/1976)

HUNT, MICHAEL F., Inter-Subject Involvement. (p. 76/1973)

HUTCHESON, ROBERT J., JR., Programmed Instruction and Music Education. (p. 9/1967)

JACOBI(Y), HUGH WILLIAM, American Composers Affiliated with American Colleges and Universities: Biographical Sketches, Their Productivity, Professional Status, Performance of Works, and Attitudes Towards University Patronage. Dissertation Abstract. (p. 82/1974)

JACKSON, JOHN PAUL, Il Terzo Libro Delle Divine Lodi Musicali di Gio. Battista Riccio. An Urtext Edition. Dissertation Abstract. (p. 88/1975)

JETTER, JUNE THOMSEN, An Evaluation of the AVII Model: A Systematic Approach to Aural-Visual Identification Instruction in Music for Young Children. Dissertation Abstract. (p. 80/1974)

JOHNSON, M. ORVILLE, Music and Media. (p. 97/1973)

JOHNSON, M. ORVILLE, The Philosophies and Attitudes of Selected Music Teachers Toward Music Education. (p. 63/1963)

JOHNSON, M. ORVILLE, A Study of the Ratings Received by Missouri High Schools Participating in the District Music Festivals from 1959-1965. (p. 56/1966)

JOHNSON, M. ORVILLE, A Study of the State Music Festivals in Missouri from 1959-1966. (p. 69/1967)

JOHNSON, ORLAND, Some Notes Concerning Performance of Renaissance Choral Music. (p. 34/1964)

JONES, ROBERT C., Ramos and Some Polemic Theorists of the Renaissance. (p. 40/1968)

JOSEPH, DON VERNE, The Evolution of Symphonic Instrumentation in the Nineteenth Century. (p. 60/1970)

KALIPOLITES, MARCUS, A Programmed Course in Acoustics in Music for Junior High School. Dissertation Abstract. (p. 112/1972)

KAREL, LEON, Music Theory and Musicianship Teaching in Missouri Colleges and Universities: A Preliminary Report. (p. 10/1964)

KAREL, LEON, The Senior Comprehensive Examination as a Means of Improving Music Theory Teaching in Missouri Colleges and Universities. (p. 5/1965)

KELLY, JOHN D., Three Keyboard Concertos of J. C. Monn (1726-1782). Dissertation Abstract. (p. 82/1975)

KITTO, ARMAND, Toward the Development of a Music Curriculum Based on the Maturation of the Child. (p. 5/1962)

KNIRR, WALTER H., Instrumental Music and the Cerebral Palsied Child. (p. 29/1962)

KREMER, MARIE JOHANNA, The Organ in Symphonic Ensemble. Dissertation Abstract. (p. 89/1975)

LABUTA, JOSEPH A., Tension and Motion as Factors in Expressive Conducting. (p. 4/1967)

LACKEY, MYRA, Learning Centers in Elementary School Music. (p. 19/1974)

LANG, JOHN, Musical Values and the String Class. (p. 11/1962)

LANGLEY, RICHARD DOUGLAS, Sonate Concertate in Stil Moderno by Dario Castello: A Transcription of Book I. Dissertation Abstract. (p. 90/1975)

LATHOM, WANDA, A Study of Musical Achievement of Childres in an Economically Depressed Area. (p. 82/1972)

LEBLANC, ALBERT AND HELEN LEBLANC, CEMREL, INC., A Study of Placement in Music History and Music Theory in Missouri Institutions of Higher Education. (p. 31/1975)

LEE, C. LORAN, Developing Patterns of the Undergraduate Music Education Curriculum in the United States. Dissertation Abstract. (p. 83/1966)

LOEWE, DON, Sir Carl Busch: His Life and Work as a Teacher, Conductor, and Composer. (p. 102/1972)

LOWERY, OLIN DORN, The National Endowment for the Humanities as Related to Interdisciplinary Humanities Programs in Selected Colleges of the United States. Dissertation Abstract. (p. 83/1975)

LUEHRMAN, RICHARD A., A Study of the Evolution of Criticism and Principles of Baroque in the Arts. Dissertation Abstract. (p. 87/1969)

MARSHALL, SHELLEY M., Teaching Aural Skills Without Visual Aids: A Study Using Sighted and Non-Sighted Children. Thesis Abstract. (p. 122/1976)

MARTIN, RAYMOND E., Eleven Selected Woodwind Concertos of Johann Melchoir Molter. Dissertation Abstract. (p. 108/1973)

McCURRY, F. BION, An Investigation of the Effect of Three Contrasting Types of Music on the Electric Potential Generated by the Human Brain. (p. 49/1964)

McCURRY, F. BION, Progress Report on the Action Research Project in the Schools of Missouri. (p. 4/1968)

MIDDLETON, JAMES A., A Matrix for Instrumental Competencies. (p. 40/1975)

MILAK, JOHN, An Application of Certain Learning Theories to the Teaching of Musical Rhythm. (p. 49/1969)

MILAK, JOHN, The Parker Road Project: An Experiment on the Effects of Young Audience Concerts and a Related Curriculum on the Cognitive and Affective Development of Elementary School Children. (p. 5/1972)

MILAK, MELBA S., Contemporary Concepts of Career Education in Music and Their Relationship to John Dewey. (p. 54/1974)

MILLER, ROBERT MELVIN, The Concerto and Related Works for Low Brass: A Catalog of Compositions from c. 1700 to the Present. Dissertation Abstract. (p. 91/1975)

MORIE, WAYNE, Principal Instrumental Forms of the Baroque Era. (p. 47/1962)

MORRILL, DEXTER, Report on the Ford Foundation Composer Project in University City. (p. 48/1963)

NELSON, GARY LEE, Anton Webern's Five Canons, Opus 16: A Test Case for Computer-Aided Analysis and Synthesis of Musical Style. Dissertation Abstract. (p. 93/1975)

NEWANDER, MARY CLARICE, The Cultural Heritage of the Metropolitan St. Louis Area as Reflected in the Songs and Folk Songs of Its European Ethnic Groups: A Collection of Songs and Folk Songs Appropriate for Use in Elementary and Junior High Schools. Dissertation Abstract. (p. 113/1976)

NICHOLSON, JOE, The Development and Use of the Renaissance Trombone. (p. 58/1967)

OAKLEY, DAVID L., The Cumulative Attainment by Missouri High School Seniors of the Musical Learnings Stated in the Music Curriculum Guides Published by the Missouri State Department of Education. (p. 45/1972)

O'BANNON, CHESTER TROY, A Study in Developing an Artistic Interpretation of the Song. Dissertation Abstract. (p. 80/1969)

OBERDIN, HELEN, The Use of Notated Examples in the Fifth Grade Music Appreciation Class. (p. 35/1968)

OLSEN, ANGIE, The Slow Learner in the High School General Music Class. (p. 21/1962)

OZIPKO, JERRY A., A Summary of the Evolution and Development of the Cadenza in the Violin Repertory Through Use of Examples. (p. 92/1970)

PETERSON, JESSE LAURENCE, Music Departments of Colleges or Universities and Public School – Interrelationships. Dissertation Abstract. (p. 114/1971)

PIERCE, YVETTE B., Music Reading. (p. 17/1968)

POSEY, PHILLIP C., Instruments and Voices in Contemporary Christian Worship. Dissertation Abstract. (p. 83, 1974

POWELL, IRA CHESLEY, A Study of the Relationship of Singing Accuracy to the Pitch-Making Abilities of Eighty-One Subjects. Dissertation Abstract. (p. 107/1970)

PRANTE, WILLIAM, Haydn, Music and Literature. (p. 45/1964)

PRICE, JEFFREY KEITH, A Study of Selected Twentieth-Century Compositions for Heterogeneous Brass Ensembles and Organ by United States Composers. Dissertation Abstract. (p. 117/1976)

RALSTON, JACK L., A Century and a Half of Missouri Music. (p. 4/1973)

RICHARDS, WILLIAM H., Trends in Piano Class Instruction 1815-1962. (p. 50/1962)

RINEHART, ARTHUR, The Factors Present in the Transitional Musical Vocabulary of Alexander Nikolayevitch Scriabin Which Suggest Later Compositional Techniques: An Analysis of the Composer's Fourth, Fifth and Sixth Piano Sonatas. Dissertation Abstract. (p. 84/1975)

RODABAUGH, PAUL D., Improved Teaching Through the Use of the Videotaperecorder. (p. 67/1971)

ROECHLE, CHARLES A., Notes on Musical Taste. (p. 5/1968)

ROLLINS, KAREN DENISE, Music in Open Education: Its Relationship to Individualization Through the Use of Learning Centers with Emphasis on Elementary Education. (p. 14/1975)

ROSENBERG, GLORIA HAYES, Humanism and the Whole Note. (p. 5/1975)

ROUSSEAU, EUGENE E., Bases for the Appearance of Musical Instruments in Visual Works of Art. (p. 25/1964)

RUEB, PHYLLIS, The Emergence of the Public Concert. (p. 23/1969)

SCHULTZ, KENNETH, The French Horn, A Right-Handed Instrument. (p. 23/1965)

SHORMAKER, JOHN, A Selected and Annotated Listing of Twentieth Century Ensembles Published for Three or More Heterogeneous Brass Instruments. Dissertation Abstract. (p. 89/1969)

SIEBERS, WILLIAM R., Contemporary Violin Fingering. Dissertation Abstract. (p. 108/1972)

STEPHENSON, JACK R., Research in Action: The Transfer of Research in Music and Music Education Into the Classroom. (p. 4/1971)

THOMPSON, BARBARA, Twentieth Century Music for Elementary School Children. (p. 12/1963)

TURPIN, DOUGLAS L., Programmed Instruction and Music Education. (p. 12/1971)

TURPIN, DOUGLAS LEONARD, The Twentieth Century: A Secondary Teacher's Guide for the Introduction of Twentieth Century Music With Emphasis Upon American Composers. (p. 89/1973)

URBAN, DARRELL, Gotfried Reiche, Notes on His Art, Life, Instruments and Music. (p. 14/1966)

VALENZIANO, NICHOLAS J., Twenty-One Avant Garde Compositions for Clarinet Published Between 1964 and 1972: Notational Practices and Performance Techniques. Dissertation Abstract. (p. 110/1973)

VAN ZEE, NORMA, Verbal-Descriptive and Performance Responses of Kindergarten Children to Selected Musical Stimuli and Terminology. (p. 4/1974)

VENHOUSE, SISTER DOROTHY, Basic Method of Group Instruction for Beginning Church Organists. Dissertation Abstract. (p. 107/1971)

VEREEN, WILLIAM N., A Study of Rehearsal Techniques for Symphonic Band. Dissertation Abstract. (p. 11/1971)

WALKER, PEARL W., A Study in Improving the Interpretation of Selected Arias From Standard Operas. (p. 55/1962)

WARDENBURG, ROBERT, An Experiment in Programming Rudiments of Music for Fifth Grade Students Compared to Conventional Instructional Methods. (p. 68/1969)

WARNER, ROGER, A Design for Comprehensive Musicianship in the Senior High School Band Program. Dissertation Abstract. (p. 112/1976)

WARNER, ROGER, A Study of the Relation Between the Objective and Subjective Measurement of the Quantitative Differences in Tone Quality Among Various Makes of Clarinets. (p. 36/1969)

WEEDMAN, CHARLES H., Some Problems of Opera Production in the Small College and Selected Appropriate Repertoire. Dissertation Abstract. (p. 11/1973)

WEITZ, LOWELL E., The Stage Band as Part of the High School Music Program. Dissertation Abstract. (p. 86/1969)

WEXLER, KENNETH, The Degradation of the Blues. (p. 69/1975)

WILLIS, JAMES D., A Study of Paul Hindemith's Use of the Trombone as Seen in Selected Chamber Compositions. Dissertation Abstract. (p. 112/1973)

WILLMAN, FRED, A Brief Historical Study of the Singing Schools and Shape Notes and Implications for Music Education Today. (p. 91/1976)

WURTZ, MARTHA H., Music for the Academically Talented High School Student. (p. 25/1962)

WURTZ, MARTHA H., Music History Teaching in Missouri Colleges and Universities — A Preliminary Report. (p. 5/1964)

YIK, STEPHEN, A Study of the Curriculum Materials Used in Music Classes in the Primary and Secondary Schools in Taiwan from 1950-1973. Dissertation Abstract. (p. 116/1976)

ZIMMERMAN, MARILYN P., Characteristics of the Adolescent: Implications for the Listening Repertoire. (p. 84/1976)

ZIMMERMAN, MARILYN P., Research in Music Education for Young Children. (p. 44/1975)

## TITLE

AMERICAN COMPOSERS AFFILIATED WITH AMERICAN COLLEGES AND UNIVERSITIES: BIOGRAPHICAL SKETCHES, THEIR PRODUCTIVITY, PROFESSIONAL STATUS, PERFORMANCE OF WORKS, AND ATTITUDES TOWARDS UNIVERSITY PATRONAGE. Dissertation Abstract -- Jacobi(y), Hugh William. (p. 82/1974)

AN APPLICATION OF CERTAIN LEARNING THEORIES TO THE TEACHING OF MUSICAL RHYTHM — Milak, John. (p. 49/1969)

AN APPRAISAL OF GROUP SINGING OF SIXTH GRADERS, IN TWENTY-FIVE ELEMENTARY SCHOOLS, IN A MIDWESTERN CITY OF ONE HUNDRED THOUSAND -- Hansford, Charles. (p. 42/1965)

ANTON WEBERN'S FIVE CANONS, OPUS 16: A TEST CASE FOR COMPUTER-AIDED ANALYSIS AND SYNTHESIS OF MUSICAL STYLE. Dissertation Abstract — Nelson, Gary Lee. (p. 93/1975)

AUTOMATED TEACHING SYSTEM FOR FUNCTIONAL PIANO SKILLS — Ellingson, Donald. (p. 7/1966)

BASES FOR THE APPEARANCE OF MUSICAL INSTRUMENT IN VISUAL WORKS OF ART — Rousseau, Eugene E. (p. 25/1964)

BLACK MUSIC: PATHMAKER OF THE HARLEM RENAISSANCE — Blum, Martin. (p. 72/1974)

THE BLACK MUSICIAN IN AMERICAN SOCIETY.— Brooks, Tilford. (p. 18/1970)

BRASS INSTRUMENT KEY AND VALVE MECHANISMS MADE IN AMERICA BEFORE 1875. Dissertation Abstract — Eliason, Robert E. (p. 81/1969)

A BRIEF HISTORICAL STUDY OF THE SINGING SCHOOLS AND SHAPE NOTES AND IMPLICATIONS FOR MUSIC EDUCATION TODAY -- Willman, Fred. (p. 91/1976)

A CENTURY AND A HALF OF MISSOURI MUSIC — Ralston, Jack L. (p. 4/1973)

CHARACTERISTICS OF THE ADOLESCENT: IMPLICATIONS FOR THE LISTENING REPERTOIRE — Zimmerman, Marilyn P. (p. 84/1976)

A COMPARISON OF TWO METHODS FOR TEACHING MUSICAL FORM TO SEVENTH GRADE GENERAL MUSIC CLASSES — Burton, James William. (p. 29/1974)

A COMPARISON OF TWO METHODS FOR TEACHING MUSICAL FORM TO SEVENTH GRADE GENERAL MUSIC CLASSES. Dissertation Abstract — Burton, James William. (p. 81/1975)

THE CONCERTO AND RELATED WORKS FOR LOW BRASS: A CATALOG OF COMPOSITIONS FROM c. 1700 TO THE PRESENT. Dissertation Abstract — Miller, Robert Melvin. (p. 91/1975)

CONTEMPORARY CONCEPTS OF CAREER EDUCATION IN MUSIC AND THEIR RELATIONSHIP TO JOHN DEWEY -- Milak, Melba S. (p. 54/1974)

CONTEMPORARY VIOLIN FINGERING. Dissertation Abstract -- Siebers, William F. (p. 108/1972)

THE CULTURAL HERITAGE OF THE METROPOLITAN ST. LOUIS AREA AS REFLECTED IN THE SONGS AND FOLK SONGS OF ITS EUROPEAN ETHNIC GROUPS: A COLLECTION OF SONGS AND FOLK SONGS APPROPRIATE FOR USE IN ELEMENTARY AND JUNIOR HIGH SCHOOLS. Dissertation Abstract -- Newander, Mary Clarice. (p. 113/1976)

THE CUMULATIVE ATTAINMENT BY MISSOURI HIGH SCHOOL SENIORS OF THE MUSICAL LEARNINGS STATED IN THE MUSIC CURRICULUM GUIDES PUBLISHED BY THE MISSOURI STATE DEPARTMENT OF EDUCATION — Oakley, David L. (p. 45/1972)

THE DEGRADATION OF THE BLUES -- Wexler, Kenneth. (p. 69/1975)

THE DERIVATION AND EARLY HISTORY OF THE SAXOPHONE -- Amedura, Richard. (p. 88/1972)

A DESIGN FOR COMPREHENSIVE MUSICIANSHIP IN THE SENIOR HIGH SCHOOL BAND PROGRAM. Dissertation Abstract -- Warner, Roger. (p. 11/1976)

DEVELOPING PATTERNS OF THE UNDERGRADUATE MUSIC EDUCATION CURRICULUM IN THE UNITED STATES — Lee, C. Loran. (p. 83/1966)

THE DEVELOPMENT AND USE OF THE RENAISSANCE TROMBONE -- Nicholson, Joe. (p. 58/1967)

DEVELOPMENT OF A METHODOLOGY FOR TRANSCRIBING THE ORGAN MUSIC OF BACH FOR BAND — Burk, James M. (p. 85/1971)

DIRECTIONS FOR IMPROVEMENT OF RESEARCH IN MUSIC EDUCATION -- Burmeister, Clifton A. (p. 5/1963)

THE EFFECT OF MODEL INSTRUCTION ON TEACHING THE MUSICAL CONCEPT "PHRASE" TO SECOND YEAR BAND STUDENTS. Thesis Abstract — Cook, Judith Kay. (p. 123/1976)

ELEVEN SELECTED WOODWIND CONCERTOS OF JOHANN MELCHOIR MOLTER. Dissertation Abstract — Martin, Raymond E. (p. 108/1973)

THE EMERGENCE OF THE PUBLIC CONCERT — Rueb, Phyllis. (p. 23/1969)

THE ESTHETIC THEORIES OF JOHN DEWEY AND THEIR EFFECT ON MUSIC EDUCATION PRACTICES OF TODAY — Cereghino, Rosemary Carnighan. (p. 47/1976)

AN EVALUATION OF THE AVII MODEL: A SYSTEMATIC APPROACH TO AURAL-VISUAL IDENTIFICATION INSTRUCTION IN MUSIC FOR YOUNG CHILDREN. Dissertation Abstract — Jetter, June Thomsen. (p. 80/1974)

THE EVOLUTION OF SYMPHONIC INSTRUMENTATION IN THE NINETEENTH CENTURY — Joseph, Don Verne. (p. 60/1970)

AN EXPERIMENT IN PROGRAMMING RUDIMENTS OF MUSIC FOR FIFTH GRADE STUDENTS COMPARED TO CONVENTIONAL INSTRUCTIONAL METHODS — Wardenburg, Robert. (p. 68/1969)

AN EXPLORATORY STUDY IN A USE OF THE VIOLIN AND RECORDER AS TOOLS IN ELEMENTARY SCHOOL MUSIC CLASSES — Hoffer, Charles. (p. 36/1965)

FACTORS CONCERNING THE PRODUCTION OF THE MUSICAL IN THE HIGH SCHOOL. Dissertation Abstract -- Burnau, John Marcus. (p. 84/1969)

FACTORS INFLUENCING THE CHOICE AND PURSUANCE OF A CAREER IN MUSIC EDUCATION: A SURVEY AND CASE APPROACH. Doctoral Dissertation — Burgstahler, Elton. (p. 53/1967)

THE FACTORS PRESENT IN THE TRANSITIONAL MUSICAL VOCABULARY OF ALEXANDER NIKOLAYEVITCH SCRIABIN WHICH SUGGEST LATER COMPOSITIONAL TECHNIQUES: AN ANALYSIS OF THE COMPOSER'S FOURTH, FIFTH, AND SIXTH PIANO SONATAS. Dissertation Abstract — Rinehart, Arthur. (p. 84/1975)

THE FRENCH HORN, A RIGHT-HANDED INSTRUMENT — Schultz, Kenneth. (p. 23/1965)

GENERAL MUSIC: A MUSIC EDUCATORS PROVING GROUND -- Duncan, Curtis D. (p. 51/1975)

GOTFRIED REICHE, NOTES ON HIS ART, LIFE, INSTRUMENT AND MUSIC — Urban, Darrell. (p. 14/1966)

HAYDN, MUSIC AND LITERATURE -- Prante, William. (p. 45/1964)

A HISTORICAL STUDY OF BLACK MUSIC AND SELECTED TWENTIETH CENTURY BLACK COMPOSERS AND THEIR ROLE IN AMERICAN SOCIETY. Dissertation Abstract -- Brooks, Tilford. (p. 115/1972)

HUMANISM AND THE WHOLE NOTE -- Rosenberg, Glorai Hayes. (p. 5/1975)

HUMANITIES, INTEGRATED ARTS AND AESTHETIC EDUCATION -- Gaver, William D. (p. 95/1971)

IL TERZO LIBRO DELLE DIVINE LODI MUSICALI DE GIO. BATTISTA RICCIO. AN URTEXT EDITION. Dissertation Abstract -- Jackson, John Paul. (p. 88/1975)

IMPROVED TEACHING THROUGH THE USE OF THE VIDEOTAPE-RECORDER — Rodabaugh, Paul D. (p. 67/1971)

INDIVIDUALIZED INSTRUCTION FOR GENERAL MUSIC CLASSES INVOLVING THE USE OF SLIDES PROJECTED IN SYNCHRONIZATION WITH PRERECORDED TAPE — Hilton, Lewis B. (p. 49/1968)

THE INFLUENCE OF GESTALT PSYCHOLOGY ON ELEMENTARY MUSIC EDUCATION AND PEDAGOGY -- PROPOSALS FOR A CURRICULUM (K-6) — Boyer, Rene. (p. 6/1976)

INSTRUCTION IN THE MUSIC CONSERVATORIES OF ST. LOUIS 1870-1930 — Headley, Erin. (p. 43/1974)

INSTRUMENTAL MUSIC AND CEREBRAL PALSIED CHILD — Knirr, Walter H. (p. 29/1962)

THE INSTRUMENTAL MUSIC OF PAUL PISK. Dissertation Abstract — Collins, Thomas W. (p. 113/1972)

INSTRUMENTS AND VOICES IN CONTEMPORARY CHRISTIAN WORSHIP. Dissertation Abstract -- Posey, Phillip C. (p. 83/1974

THE INTEGRATION OF MUSIC LEARNINGS IN THE JUNIOR HIGH CHORAL CLASS — Ball, Rosalyn H. (p. 80/1970)

INTER-SUBJECT INVOLVEMENT — Hunt, Michael F. (p. 76/1973)

AN INVESTIGATION OF THE EFFECT OF THREE CONTRASTING TYPES OF MUSIC ON THE ELECTRIC POTENTIAL GENERATED BY THE HUMAN BRAIN -- McCurry, F. Bion. (p. 49/1964)

AN INVESTIGATION OF THE VIBRATING CLARINET REED UTILIZING HIGH SPEED CINEMATOGRAPHY. Dissertation Abstract — Coppenbarger, Roger Dean. (p. 108/1971)

KATHERINE K. DAVIS: LIFE AND WORK -- Boughton, Harrison C. (p. 84/1974)

LEARNING CENTERS IN ELEMENTARY SCHOOL MUSIC -- Lackey, Myra. (p. 19/1974)

LEITH STEVENS: A CRITICAL ANALYSIS OF HIS WORKS. Dissertation Abstract -- Hamilton, James C. (p. 120/1976)

LEOPOLD MOZART'S PARTITA IN D: AN EDITION. Dissertation Abstract -- Berger, Michael E. (p. 78/1975)

A MATRIX FOR INSTRUMENTAL COMPETENCIES -- Middleton, James A. (p. 40/1975)

MELLANGE DE CHANSONS: TRANSCRIBED AND EDITED, WITH COMMENTARY. Dissertation Abstract -- Curtis, Stephen Milne. (p. 87/1975)

A METHOD OF TEACHING ELEMENTARY VOCAL MUSIC READING BASED ON PRINCIPLES OF FIXED PITCH — Geders, Sister Alphonse Marie C. PP. S. (p. 56/1962)

THE MISSOURI HARMONY 1812-1858: THE REFINEMENT OF A SOUTHERN TUNEBOOK. Dissertation Abstract — Bean, Shirley Ann. (p. 107/1973)

MISSOURI MUSIC EDUCATORS ASSOCIATION AND ACTION RESEARCH IN THE SCHOOLS OF MISSOURI — Anderson, Don. (p. 5/1966)

MUSIC AND MEDIA — Johnson, M. Orville. (p. 97/1973)

MUSIC DEPARTMENTS OF COLLEGES OR UNIVERSITIES AND PUBLIC SCHOOLS — INTERRELATIONSHIPS. Dissertation Abstracts -- Peterson, Jesse Laurence. (p. 114/1971)

MUSIC EDUCATION AND THE BLIND — Gagnepain, Joan Thies. (p. 39/1971)

MUSIC FOR THE ACADEMICALLY TALENTED HIGH SCHOOL STUDENT — Wurtz, Martha H. (p. 25/1962)

MUSIC HISTORY TEACHING IN MISSOURI COLLEGES AND UNIVERSITIES — A PRELIMINARY REPORT — Wurtz, Martha H. (p. 5/1964)

MUSIC IN OPEN EDUCATION: ITS RELATIONSHIP TO INDIVIDUALIZATION THROUGH THE USE OF LEARNING CENTERS WITH EMPHASIS ON ELEMENTARY EDUCATION -- Rollins, Karen Denise. (p. 14/1975)

MUSIC READING — Pierce, Yvette B. (p. 17/1968)

MUSIC STUDENT TEACHING PRACTICES IN MISSOURI COLLEGES AND UNIVERSITIES: A PRELIMINARY REPORT — Bulgin, Lansing. (p. 15/1964)

MUSIC TEACHER CLASSROOM TECHNIQUE VERSUS COMPUTER-ASSISTED INSTRUCTION. Dissertation Abstract — Feldt, James Von. (p. 110/1972)

MUSIC THEORY AND MUSICIANSHIP TEACHING IN MISSOURI COLLEGES AND UNIVERSITIES: A PRELIMINARY REPORT — Karel, Leon. (p. 10/1964)

MUSICAL TASTE AS INDICATED BY RECORDS OWNED BY COLLEGE STUDENTS WITH VARYING HIGH SCHOOL MUSIC EXPERIENCES — Birch, Thomas E. (p. 53/1962)

MUSICAL VALUES AND THE STRING CLASS — Lang, John. (p. 11/1962)

THE NATIONAL ENDOWMENT FOR THE HUMANITIES AS RELATED TO INTERDISCIPLINARY HUMANITIES PROGRAMS IN SELECTED COLLEGES OF THE UNITED STATES. Dissertation Abstract — Lowery, Olin Dorn. (p. 83/1975)

NOTES ON MUSICAL TASTE — Roeckle, Charles A. (p. 5/1968)

THE ORGAN IN SYMPHONIC ENSEMBLE. Dissertation Abstract — Kremer, Marie Johanna. (p. 89/1975)

ORTHODONIC TREATMENT AS A FACTOR IN THE SELECTIONS AND PERFORMANCE OF BRASS MUSICAL INSTRUMENTS — Bjorstrom, Neil. (p. 31/1973)

THE PARKER ROAD PROJECT: AN EXPERIMENT ON THE EFFECTS OF YOUNG AUDIENCE CONCERTS AND A RELATED CURRICULUM ON THE COGNITIVE AND AFFECTIVE DEVELOPMENT OF ELEMENTARY SCHOOL CHILDREN — Milak, John. (p. 5/1972)

PERSONALIZED INSTRUCTION: SOME REASONS WHY — Hagan, Sister Tobias. (p. 11/1974)

THE PHILOSOPHIES AND ATTITUDES OF SELECTED MUSIC TEACHERS TOWARD MUSIC EDUCATION — Johnson, M. Orville. (p. 63/1963)

PILOT EXPERIMENTAL PROGRAMS FOR DEVELOPING HIGH SCHOOL ENSEMBLE MUSIC CLASSES (BAND, ORCHESTRA, CHORUS) INTO COURSES REPRESENTING AN ACADEMIC DISCIPLINE — Blackschmidt, Alfred W. (p. 62/1968)

PRINCIPAL INSTRUMENTAL FORMS OF THE BAROQUE ERA -- Morie, Wayne. (p. 47/1962)

A PROGRAMMED COURSE IN ACOUSTICS IN MUSIC FOR JUNIOR HIGH SCHOOL. Dissertation Abstract — Klaipolites, Marcus. (p. 112/1972)

PROGRAMMED INSTRUCTION AND MUSIC EDUCATION — Turpin, Douglas L. (p. 12/1971)

PROGRESS REPORT ON THE ACTION RESEARCH PROJECT IN THE SCHOOLS OF MISSOURI — Anderson, Don. (p. 3/1967)

PROGRESS REPORT ON THE ACTION RESEARCH PROJECT IN THE SCHOOLS OF MISSOURI — McCurry, F. Bion. (p. 4/1968)

RAMOS AND SOME POLEMIC THEORISTS OF THE RENAISSANCE — Jones, Robert G. (p. 40/1968)

REPORT ON THE FORD FOUNDATION COMPOSER PROJECT IN UNIVERSITY CITY -- Morrill, Dexter. (p. 48/1963)

RESEARCH AND PROGRESS IN THE ALLIED ARTS — Bowling, Donald. (p. 37/1962)

RESEARCH IN ACTION: THE TRANSFER OF RESEARCH IN MUSIC AND MUSIC EDUCATION INTO THE CLASSROOM — Stephenson, Jack R. (p. 4/1971)

RESEARCH IN MUSIC EDUCATION FOR YOUNG CHILDREN -- Zimmerman, Marilyn P. (p. 44/1975)

RESEARCH IN MUSIC EDUCATION: FUNCTIONS AND CONSTRAINTS— Cady, Henry. (p. 4/1970)

SELECTED AND ANNOTATED BIBLIOGRAPHY OF ORIGINAL WORKS FOR TROMBONE TRIO. Dissertation Abstract — Hummel, Donald Austin. (p. 119/1976)

A SELECTED AND ANNOTATED LISTING OF TWENTIETH CENTURY ENSEMBLES PUBLISHED FOR THREE OR MORE HETEROGENEOUS BRASS INSTRUMENTS. Dissertation Abstracts — Shoemaker, John A. (p. 89/1969)

SELECTED CONDITIONS ASSOCIATED WITH THE MOBILITY OF MISSOURI SECONDARY PUBLIC SCHOOLS — Bodanske, William H. (p. 29/1970)

A SELECTED LIST OF ART SONGS IN FRENCH -- Cramer, Eugene C. (p. 39/1970)

THE SENIOR COMPREHENSIVE EXAMINATION AS A MEANS OF IMPROVING MUSIC THEORY TEACHING IN MISSOURI COLLEGES AND UNIVERSITIES — Karel, Leon. (p. 5/1965)

SERIAL COMPOSITIONS FOR BAND. Dissertation Abstract — Casey, Robert Lowell. (p. 115/1971)

THE SIGNIFICANCE OF THE WIND ENSEMBLE IN AMERICAN MUSIC EDUCATION -- Gephardt, Donald. (p. 58/1973)

SIR CARL BUSCH: HIS LIFE AND WORK AS A TEACHER, CONDUCTOR, AND COMPOSER — Loewe, Don. (p. 102/1972)

SIXTEENTH CENTURY POLYPHONY — Dorn, Stephen. (p. 56/1963)

THE SLOW LEARNER IN THE HIGH SCHOOL GENERAL MUSIC CLASS-- Olden, Angie. (p. 21/1962)

SOME NOTES CONCERNING PERFORMANCE OF RENAISSANCE CHORAL MUSIC -- Johnson, Orland. (p. 34/1964)

SOME PROBLEMS OF OPERA PRODUCTION IN THE SMALL COLLEGE AND SELECTED APPROPRIATE REPERTOIRE. Dissertation Abstract -- Weedman, Charles H. (p. 111/1973)

SONATE CONCERTE IN STIL MODERNO BY DARIO CASTELLO: A TRANSCRIPTION OF BOOK I. Dissertation Abstract -- Langley, Richard Douglas. (p. 90/1975)

THE STAGE BAND AS PART OF THE HIGH SCHOOL MUSIC PROGRAM. Dissertation Abstract -- Weitz, Lowell. (p. 86/1969)

STRUCTURAL LEARNING AND MUSIC READING -- Cook, Barbara. (p. 15/1965)

THE STRUCTURAL METHOD OF TEACHING MUSIC LISTENING GRADES K-9. Dissertation Abstract -- Hagan, Sister Mary Tobias. (p. 105/1973)

THE STRUCTURAL ORGANIZATION OF THE SUBJECT MATTER OF MUSIC FOR ELEMENTARY AND JUNIOR HIGH CURRICULA -- Hagan, Sister M. Tobias. (p. 64/1972)

A STUDY IN DEVELOPING AN ARTISTIC INTERPRETATION OF THE SONG. Dissertation Abstract -- O'Bannon, Chester Troy. (p. 80/1969)

A STUDY IN IMPROVING THE INTERPRETATION OF SELECTED ARIAS FROM STANDARD OPERAS -- Walker, Pearl W. (p. 55/1962)

A STUDY OF CHARACTERISTIC STYLISTIC TRENDS FOUND IN THE CHORAL WORKS OF A SELECTED GROUP OF AFRO-AMERICAN COMPOSERS AND ARRANGERS. Dissertation Abstract -- Harris, Carl Gordon, Jr. (p. 114/1972)

A STUDY OF INTERVIEWING PRACTICES AND TECHNIQUES UTILIZED IN THE SCREENING OF PROSPECTIVE MUSIC PERSONNEL IN DEPARTMENTS OF MUSIC IN INSTITUTIONS OF

HIGHER EDUCATION. Dissertation Abstract — Hegstad, Joseph M. (p. 110/1971)

A STUDY OF MUSICAL ACHIEVEMENT OF CHILDREN IN AN ECONOMICALLY DEPRESSED AREA — Lathom, Wanda. (p. 82/1972)

A STUDY OF PAUL HINDEMITH'S USE OF THE TROMBONE AS SEEN IN SELECTED CHAMBER COMPOSITIONS. Dissertation Abstract —Willis, James D. (p. 112/1973)

A STUDY OF PLACEMENT IN MUSIC HISTORY AND MUSIC THEORY IN MISSOURI INSTITUTIONS OF HIGHER EDUCATION — LeBlanc, Albert and Helen LeBlanc, Cemrel, Inc. (p. 31/1975)

A STUDY OF REHEARSAL TECHNIQUES FOR SYMPHONIC BAND. Dissertation Abstract — Vereen, William N. (p. 111/1971)

A STUDY OF SELECTED TWENTIETH-CENTURY COMPOSITIONS FOR HETEROGENEOUS BRASS ENSEMBLES AND ORGAN BY UNITED STATES COMPOSERS. Dissertation Abstract -- Price, Jeffrey Keith. (p. 117/1976)

A STUDY OF THE APPLICATION OF CREATIVITY IN THE TEACHING OF SECONDARY SCHOOL MUSIC. Dissertation Abstract — Brown, Elwood H. (p. 112/1971)

A STUDY OF THE CURRICULUM MATERIALS USED IN MUSIC CLASSES IN THE PRIMARY AND SECONDARY SCHOOLS IN TAIWAN FROM 1950-1973. Dissertation Abstract -- Yik, Stephen. (p. 116/1976)

A STUDY OF THE EFFECT OF HAND SIGNS IN THE DEVELOPMENT OF SIGHT SINGING SKILLS. Dissertation Abstract — Aurty, Mollie Rose. (p. 114/1976)

A STUDY OF THE EFFECTIVENESS OF MUSIC LESSONS PRESENTED VIA CLOSED CIRCUIT TELEVISION AS COMPARED WITH LESSONS PRESENTED DIRECTLY IN THE CLASS ROOM — Garcia, Richard. (p. 72/1966)

A STUDY OF THE EVOLUTION OF CRITICISM AND PRINCIPALS OF BAROQUE IN THE ARTS. Dissertation Abstract — Luehrman, Richard A. (p. 87/1969)

A STUDY OF THE RATING RECEIVED BY MISSOURI HIGH SCHOOLS PARTICIPATING IN THE DISTRICT MUSIC FESTIVALS FROM 1959-1965 — Johnson, M. Orville. (p. 56/1966)

A STUDY OF THE RELATION BETWEEN THE OBJECTIVE AND SUBJECTIVE DIFFERENCES IN TONE QUALITY AMONG VARIOUS MAKES OF CLARINETS — Warner, Roger. (p. 39/1969)

A STUDY OF THE RELATIONSHIP OF SINGING ACCURACY TO THE PITCH-MAKING ABILITIES OF EIGHTY-ONE SUBJECTS. Dissertation Abstract -- Powell, Ira Chesley. (p. 107/ 1970).

A STUDY OF THE STATE MUSIC FESTIVALS IN MISSOURI FROM 1959-1966 -- Johnson, M. Orville. (p. 69/1967)

A SUMMARY OF THE EVOLUTION AND DEVELOPMENT OF THE CADENZA IN THE VIOLIN REPERTORY THROUGH USE OF EXAMPLES -- Ozipko, Jerry A. (p. 92/1970)

SURVEY OF MUSICAL STYLE FOR BAND — Anderson, Donald K. (p. 41/1967)

TASTE, MUSIC AND EDUCATION -- Faulkner, Heane Gissenaas. (p. 84/1967)

TEACHING AURAL SKILLS WITHOUT VISUAL AIDS: A STUDY USING SIGHTED AND NON-SIGHTED CHILDREN. Thesis Abstract -- Marshall, Shelley M. (p. 112/1976)

TEACHING MUSIC CLASSES THROUGH CLOSED-CIRCUIT TELEVISION — Garcia, Richard O. (p. 28/1963)

TENSION AND MOTION AS FACTORS IN EXPRESSIVE CONDUCTING-- LaButa, Joseph A. (p. 4/1967)

THREE KEYBOARD CONCERTOS OF J. C. MONN (1726-1782). Dissertation Abstract -- Kelly, John D. (p. 82/1975)

TOWARD THE DEVELOPMENT OF A MUSIC CURRICULUM BASED ON THE MATURATION OF THE CHILD -- Kitto, Armand. (p. 5/1962)

TRENDS IN THE PIANO CLASS INSTRUCTION 1815-1962 -- Richards, William H. (p. 50/1962)

THE TWENTIETH CENTURY: A SECONDARY TEACHER'S GUIDE FOR THE INTRODUCTION OF TWENTIETH CENTURY MUSIC WITH EMPHASIS UPON AMERICAN COMPOSERS -- Turpin, Douglas Leonard. (p. 89/1973)

TWENTIETH CENTURY MUSIC FOR ELEMENTARY SCHOOL CHILDREN – Thompson, Barbara. (p. 12/1963)

TWENTIETH CENTURY WOODWIND QUINTET MUSIC OF THE UNITED STATES. Dissertation Abstract – Doherty, Charles R. (p. 108/1972)

TWENTY-ONE AVANT GARDE COMPOSITIONS FOR CLARINET PUBLISHED BETWEEN 1964 AND 1972. NOTATIONAL PRACTICES AND PERFORMANCE TECHNIQUES. Dissertation Abstract – Valenziano, Nicholas J. (p. 110/1973)

AN UNGRADED GUIDE TO THE ORGANIZATION OF THE ELEMENTARY GENERAL MUSIC CURRICULUM IN THE PUBLIC SCHOOLS. Dissertation Abstract – Ball, Rosalyn. (p. 106/1973)

THE USE OF NOTATED EXAMPLES IN THE FIFTH GRADE MUSIC APPRECIATION CLASS – Oberdin, Helen. (p. 35/1968)

THE USES OF PRE-EXISTENT MUSIC IN THE TWENTIETH CENTURY. Dissertation Abstract – Braun, William R. (p. 79/1975)

BASIC METHOD OF GROUP INSTRUCTION FOR BEGINNING CHURCH ORGANISTS. Dissertation Abstract -- Venhouse, Sister Dorothy. (p. 107/1971)

VERBAL-DESCRIPTIVE AND PERFORMANCE RESPONSES OF KINDERGARTEN CHILDREN TO SELECTED MUSICAL STIMULI AND TERMINOLOGY – Van Zee, Norma. (p. 4/1974)

WIND INSTRUMENTS IN THE SEVENTEENTH CENTURY – Coleman, Russell. (p. 5/1969)

## SUBJECT

### AESTHETICS, MUSICAL TASTE, APPRECIATION, HUMANITIES

Birch, Thomas E., Musical Taste as Indicated by Records Owned by College Students with Varying High School Music Experiences. (p. 53/1962)

Cereghino, Rosemary Carnighan, The Esthetic Theories of John Dewey and Their Effect on Music Education Practices of Today. (p. 47/1976)

Faulkner, Jeane Gissenaas, Taste, Music and Education. (p. 84/1967)

Gaver, William D., Humanities, Integrated Arts and Aesthetic Education. (p. 95/1971)

Lowery, Olin Dorn, The National Endowment for the Humanities as Related to Interdisciplinary Humanities Programs in Selected Colleges of the United States. Dissertation Abstract. (p. 83/1975)

Roeckle, Charles A., Notes on Musical Taste. (p. 5/1968)

Rosenberg, Gloria Hayes, Humanism and the Whole Note. (p. 5/1975)

### ALLIED ARTS

Bowling, Donald, Research and Progress in the Allied Arts. (p. 37/1962)

Burnau, John Marcus, Factors Concerning the Production of the Musical in the High School. Dissertation Abstract. (p. 84/1969)

Cook, Barbara, Structural Learning and Music Reading. (p. 15/1965)

Dorn, Stephen, Sixteenth Century Polyphony. (p. 56/1963)

Gaver, William D., Humanities, Integrated Arts and Aesthetic Education. (p. 95/1971)

Lowery, Olin Dorn, The National Endowment for the Humanities as Related to Interdisciplinary Humanities Programs in Selected Colleges of the United States. Dissertation Abstract. (p. 83/1975)

Morie, Wayne, Principal Instrumental Forms of the Baroque Era. (p. 47/1962)

Prante, William, Haydn, Music and Literature. (p. 45/1964)

Rousseau, Eugene E., Bases for the Appearance of Musical Instruments in Visual Works of Art. (p. 25/1964)

## ANALYTICAL STUDIES

Berger, Michael E., Leopold Mozart's Partita in D: An Edition. Dissertation Abstract. (p. 78/1975)

Braun, William R., The Uses of Pre-Existent Music in the Twentieth Century. Dissertation Abstract. (p. 79/1975)

Curtis, Stephen Milne, Mellange de Chansons: Transcribed and Edited, with Commentary. Dissertation Abstract. (p. 87/1975)

Hamilton, James C., Leith Stevens: A Critical Analysis of His Works. Dissertation Abstract. (p. 120/1976)

Jackson, John Paul, Il Terzo Libro Delle Divine Lodi Musicali di Gio. Battista Riccio. An Urtext Edition. Dissertation Abstract. (p. 88/1975)

Kelly, John D., Three Keyboard Concertos of J. C. Monn (1726-1782). Dissertation Abstract. (p. 82/1975)

Langley, Richard Douglas, Sonate Concertate in Stil Moderno by Dario Castello: A Transcription of Book I. Dissertation Abstract. (p. 90/1975)

Martin, Raymond E., Eleven Selected Woodwind Concertos of Johann Melchoir Molter. Dissertation Abstract. (p. 108/1973)

Nelson, Gary Lee, Anton Webern's Five Canons, Opus 16: A Test Case for Computer-Aided Analysis and Synthesis of Musical Style. Dissertation Abstract. (p. 93/1975)

Posey, Phillip C., Instruments and Voices in Contemporary Christian Worship. Dissertation Abstract. (p. 83/1974)

Price, Jeffrey Keith, A Study of Selected Twentieth-Century Compositions for Heterogeneous Brass Ensembles and Organ by United States Composers. Dissertation Abstract. (p. 117/1976)

Rinehart, Arthur, The Factors Present in the Transitional Musical Vocabulary of Alexander Nikolayevitch Scriabin which Suggest Later Compositional Techniques: An Analysis of the Composer's Fourth, Fifth, and Sixth Piano Sonata. Dissertation Abstract. (p. 84/1975)

Valenziano, Nicholas J., Twenty-one Avant Garde Compositions for Clarinet Published Between 1964 and 1972. Notational Practices and Performances Techniques. Dissertation Abstract. (p. 110/1973)

Willis, James D., A Study of Paul Hindemith's Use of the Trombone as Seen in Selected Chamber Compositions. Dissertation Abstract. (p. 112/1973)

## AUDIO-VISUAL

Cook, Judith Kay, The Effect of Model Instruction on Teaching the Musical Concept "Phrase" to Second Year Band Students. Dissertation Abstract. (p. 123/1976)

Garcia, Richard, A Study of the Effectiveness of Music Lessons Presented Via Closed Circuit Television as Compared with Lessons Presented Directly in the Class Room. (p. 72/1966)

Garcia, Richard O., Teaching Music Classes Through Closed-Circuit Television. (p. 28/1963)

Hilton, Lewis B., Individualized Instruction for General Music Classes Involving the Use of Slides Projected in Synchronization with Prerecorded Tape. (p. 49/1968)

Jetter, June Thomsen, An Evaluation of the AVII Model: A Systematic Approach to Aural-Visual Identification Instruction in Music for Young Children. Dissertation Abstract. (p. 80/1974)

Johnson, M. Orville, Music and Media. (p. 97/1973)

Marshall, Shelley M., Teaching Aural Skills Without Visual Aids: A Study Using Sighted and Non-Sighted Children. Dissertation Abstract. (p. 122/1976)

Rodabaugh, Paul D. Improved Teaching Through the Use of the Videotaperecorder. (p. 67/1971)

### CAREER EDUCATION

Milak, Melba S., Contemporary Concepts of Career Education in Music and Their Relationship to John Dewey. (p. 54/1974)

### COMPILING AND CATALOGING

Casey, Robert Lowell, Serial Compositions for Band. Dissertation Abstract. (p. 115/1971)

Doherty, Charles R., Twentieth Century Woodwind Quintet Music of the United States. (p. 108/1972)

Hummel, Donald Austin, A Selected and Annotated Bibliography of Original Works for Trombone Trio. Dissertation Abstract. (p. 119/1976)

Martin, Raymond E., Eleven Selected Woodwind Concertos of Johann Melchoir Molter. Dissertation Abstract. (p. 108/1973)

Miller, Robert Melvin, The Concerto and Related Works for Low Brass: A Catalog of Compositions from c. 1700 to the Present. Dissertation Abstract. (p. 91/1975)

Shoemaker, John, A Selected and Annotated Listing of 20th Century Ensembles Published for Three or More Heterogeneous Brass Instruments. Dissertation Abstract. (p. 89/1969)

Valenziano, Nicholas J., Twenty-one Avant Garde Compositions for Clarinet Published Between 1964 and 1972. Notational Practices and Performances Techniques. Dissertation Abstract. (p. 110/1973)

Weedman, Charles H., Some Problems of Opera Production in the Small College and Selected Appropriate Repertoire. Dissertation Abstract. (p. 111/1973)

Willis, James D., A Study of Paul Hindemith's Use of the Trombone as Seen in Selected Chamber Compositions. Dissertation Abstract. (p. 112/1973)

## CURRICULUM DEVELOPMENT

Anderson, Donald K., Survey of Musical Style for Band. (p. 41/1962)

Ball, Rosalyn H., The Integration of Music Learnings in the Junior High Choral Class. (p. 80/1970)

Ball, Rosalyn, An Ungraded Guide to the Organization of the Elementary General Music Curriculum in the Public Schools. Dissertation Abstract. (p. 106/1973)

Blackschmidt, Alfred W., Pilot Experimental Programs for Developing High School Ensemble Music Classes (Band, Orchestra, Chorus) Into Courses Representing an Academic Discipline. (p. 62/1968)

Bowling, Donald, Research and Progress in the Allied Arts. (p. 37/1962)

Boyer, Rene, The Influence of Gestalt Psychology on Elementary Music Education and Pedagogy--Proposals for a Curriculum (K-6). (p. 6/1976)

Brown, Elwood H., A Study of the Application of Creativity in the Teaching of Secondary School Music. Dissertation Abstract. (p. 112/1971)

Burnau, John Marcus, Factors Concerning the Production of the Musical in the High School. Dissertation Abstract. (p. 84/1969)

Cook, Barbara, Structural Learning and Music Reading. (p. 15/1965)

Duncan, Curtis D., General Music: A Music Educators Proving Ground. (p. 51/1975)

Ellingson, Donald, Automated Teaching System for Functional Piano Skills. (p. 7/1966)

Garcia, Richard O., Teaching Music Classes Through Closed-Circuit Television. (p. 28/1963)

Geders, Sister Alphonse Marie C.PP.S., A Method of Teaching Elementary Vocal Music Reading Based on Principles of Fixed Pitch. (p. 56/1962)

Hagan, Sister Mary Tobias, The Structural Method of Teaching Music Listening Grades K-9. Dissertation Abstract. (p. 105/1973)

Hagan, Sister M. Tobias. The Structural Organization of the Subject Matter of Music for Elementary and Junior High Curricula. (p. 64/1972)

Hagan, Sister Tobias, Personalized Instruction: Some Reasons Why. (p. 11/1974)

Hoffer, Charles R., An Exploratory Study in a Use of the Violin and Recorder as Teaching Tools in Elementary School Music Classes. (p. 36/1965)

Kalipolites, Marcus, A Programmed Course in Acoustics in Music for Junior High School. Dissertation Abstract. (p. 112/1972)

Karel, Leon, The Senior Comprehensive Examination as a Means of Improving Music Theory Teaching in Missouri Colleges and Universities. (p. 5/1965)

Kitto, Armand, Toward the Development of a Music Curriculum Based on the Maturation of the Child. (p. 5/1962)

Lackey, Myra, Learning Centers in Elementary School Music. (p. 19/1974)

Lang, John, Musical Values and the String Class. (p. 11/1962)

Lee, C. Loran, Developing Patterns of the Undergraduate Music Education Curriculum in the United States. (p. 83/1966)

Milak, John, An Application of Certain Learning Theories to the Teaching of Musical Rhythm. (p. 49/1969)

Milak, John, The Parker Road Project: An Experiment on the Effects of Young Audience Concerts and a Related Curriculum on the Cognitive and Affective Development of Elementary School Children. (p. 5/1972)

Morrill, Dexter, Report on the Ford Foundation Composer Project in University City. (p. 48/1963)

Oakley, David L., The Cumulative Attainment by Missouri High School Seniors of the Musical Learnings Stated in the Music Curriculum Guides Published by the Missouri State Department of Education. (p. 45/1972)

Oberdin, Helen, The Use of Notated Examples in the Fifth Grade Music Appreciation Class. (p. 35/1968)

Pierce, Yvette B., Music Reading. (p. 17/1968)

Richards, William H., Trends in Piano Class Instruction 1815-1962. (p. 50-62)

Thompson, Barbara, Twentieth Century Music for Elementary School Children. (p. 12/1963)

Turpin, Douglas Leonard, The Twentieth Century: A Secondary Teacher's Guide for the Introduction of Twentieth Century Music with Emphasis Upon American Composers. (p. 89/1973)

Van Zee, Norma, Verbal-Descriptive and Performance Responses of Kindergarten Children to Selected Musical Stimuli and Terminology. (p. 4/1974)

Walker, Pearl W., A Study in Improving the Interpretation of Selected Arias from Standard Operas. (p. 55/ 1962)

Wardenburg, Robert, An Experiment in Programming Rudiments of Music for Fifth Grade Students Compared to Conventional Instructional Methods. (p. 68/1969)

Warner, Roger, A Design for Comprehensive Musicianship in the Senior High School Band Program. (p. 112/ 1976)

Weitz, Lowell E., The Stage Band as Part of the High School Music Program. Dissertation Abstract. (p. 86/ 1969)

Yik, Stephen, A Study of the Curriculum Materials Used in Music Classes in the Primary and Secondary Schools in Taiwan from 1950-1973. Dissertation Abstract. (p. 116/1976)

Zimmerman, Marilyn P., Characteristics of the Adolescent: Implications for the Listening Repertoire. (p. 84/ 1976)

## ELEMENTARY EDUCATION

Ball, Rosalyn, An Ungraded Guide to the Organization of the Elementary General Music Curriculum in the Public Schools. Dissertation Abstract. (p. 106/1973)

Boyer, Rene, The Influence of Gestalt Psychology on Elementary Music Education and Pedagogy--Proposals for a Curriculum (K-6). (p. 6/1976)

Geders, Sister Alphonse Marie C.PP.S., A Method of Teaching Elementary Vocal Music Reading Based on Principles of Fixed Pitch. (p. 56/1962)

Hagan, Sister Mary Tobias, The Structural Method of Teaching Music Listening Grades K-9. Dissertation Abstract. (p. 105/1973)

Hagan, Sister M. Tobias, The Structural Organization of the Subject Matter of Music for Elementary and Junior High Curricula. (p. 64/1972)

Hansford, Charles, An Appraisal of Group Singing of Sixth Graders, in Twenty-Five Elementary Schools, in a Midwestern City of One Hundred Thousand. (p. 42/1965)

Lackey, Myra, Learning Centers in Elementary School Music. (p. 19/1974)

Oberdin, Helen, The Use of Notated Examples in the Fifth Grade Music Appreciation Class. (p. 35/1968)

Thompson, Barbara, Twentieth Century Music for Elementary School Children. (p. 12/1963)

Van Zee, Norma, Verbal-Descriptive and Performance Responses of Kindergarten Children to Selected Musical Stimuli and Terminology. (p. 4/1974)

Wardenburg, Robert, An Experiment in Programming Rudiments of Music for Fifth Grade Students Compared to Conventional Instructional Methods. (p. 68/1969)

Yik, Stephen, A Study of the Curriculum Materials Used in Music Classes in the Primary and Secondary Schools in Taiwan from 1950-1973. (p. 116/1976)

ETHNOLOGY

Blum, Martin, Black Music: Pathmaker of the Harlem Renaissance. (p. 72/1974)

Brooks, Tilford, The Black Musician in American Society. (p. 18/1970)

Brooks, Tilford, A Historical Study of Black Music and Selected Twentieth Century Black Composers and Their Role in American Society. Dissertation Abstract. (p. 115/1972)

Harris, Carl Gordon, Jr., A Study of Characteristic Stylistic Trends Found in the Choral Works of a Selected Group of Afro-American Composers and Arrangers. Dissertation Abstract. (p. 114/1972)

Newander, Mary Clarice, The Cultural Heritage of the Metropolitan St. Louis Area as Reflected in the Songs and Folk Songs of Its European Ethnic Groups: A Collection of Songs and Folk Songs Appropriate for Use in Elementary and Junior High Schools. Dissertation Abstract. (p. 113/1976)

Wexler, Kenneth, The Degradation of the Blues. (p. 69/1975)

HIGHER EDUCATION

Bulgin, Lansing, Music Student Teaching Practices in Missouri Colleges and Universities: A Preliminary Report. (p. 15/1964)

Hegstad, Joseph M., A Study of Interviewing Practices and Techniques Utilized in the Screening of Prospective Music Personnel in Departments of Music in Institutions of Higher Education. Dissertation Abstract. (p. 110/1971)

Karel, Leon, Music Theory and Musicianship Teaching in Missouri Colleges and Universities: A Preliminary Report. (p. 10/1964)

Karle, Leon, The Senior Comprehensive Examination as a Means of Improving Music Theory Teaching in Missouri Colleges and Universities. (p. 5/1965)

LeBlanc, Albert and Helen LeBlanc, CEMREL, Inc., A Study of Placement in Music History and Music Theory in Missouri Institutions of Higher Education. (p. 31/1975)

Lee, C. Loran, Developing Patterns of the Undergraduate Music Curriculum in the United States. (p. 83/1966)

Wurtz, Martha H., Music History Teaching in Missouri Colleges and Universities -- A Preliminary Report. (p. 5/1964)

HISTORY, BIOGRAPHY

Ameduri, Richard, The Derivation and Early History of the Saxophone. (p. 88/1972)

Bean, Shirley Ann, The Missouri Harmony 1812-1858: The Refinement of a Southern Tunebook. Dissertation Abstract. (p. 107/1973)

Boughton, Harrison C., Kathrine K. Davis: Life and Work. (p. 84/1974)

Braun, William R., The Uses of Pre-Existent Music in the Twentieth Century. Dissertation Abstract. (p. 79/1975)

Brooks, Tilford, The Black Musician in American Society. (p. 18/1970)

Brooks, Tilford, A Historical Study of Black Music and Selected Twentieth Century Black Composers and Their Role in American Society. Dissertation Abstract. (p. 115/1972)

Coleman, Russell, Wind Instruments in the Seventeenth Century. (p. 5/1969)

Curtis, Stephen Milne, Mellange de Chansons: Transcribed and Edited, With Commentary. Dissertation Abstract. (p. 87/1975)

Dorn, Stephen, Sixteenth Century Polyphony. (p. 56/1963)

Eliason, Robert E., Brass Instrument Key and Valve Mechanisms Made in America Before 1875. Dissertation Abstract. (p. 81/1969)

Gephardt, Donald, The Significance of the Wind Ensemble in American Music Education. (p. 58/1973)

Headley, Erin, Instruction in the Music Conservatories of St. Louis 1870-1930. (p. 43/1974)

Jackson, John Paul, Il Terzo Libro Delle Divine Lodi Musicali di Gio. Battista Riccio. An Urtext Edition. Dissertation Abstract. (p. 88/1975)

Jacobi(y), Hugh William, American Composers Affiliated with American Colleges and Universities: Biographical Sketches, Their Productivity, Professional Status, Performance of Works, and Attitudes Towards University Patronage. Dissertation Abstract. (p. 82/1974)

Jones, Robert C., Ramos and Some Polemic Theorists of the Renaissance. (p. 40/1968)

Joseph, Don Verne, The Evolution of Symphonic Instrumentation in the Nineteenth Century. (p. 60/1970)

Kelly, John D., Three Keyboard Concertos of J. C. Monn (1726-1782). Dissertation Abstract. (p. 82/1975)

Langley, Richard Douglas, Sonate Concertate in Stil Moderno by Dario Castello: A Transcription of Book I. Dissertation Abstract. (p. 90/1975)

Loewe, Don, Sir Carl Busch: His Life and Work as a Teacher, Conductor, and Composer. (p. 102/1972)

Leuhrman, Richard A., A Study of the Evolution of Criticism and Principals of Baroque in the Arts. Dissertation Abstract. (p. 87/1969)

Morie, Wayne, Principal Instrumental Forms of the Baroque Era. (p. 47/1962)

Nicholson, Joe, The Development and Use of the Renaissance Trombone. (p. 58/1967)

Ozipko, Jerry A., A Summary of the Evolution and Development of the Cadenza in the Violin Repertory Through Use of Examples. (p. 92/1970)

Ralston, Jack L., A Century and a Half of Missouri Music. (p. 4/1973)

Rousseau, Eugene E., Bases for the Appearance of Musical Instruments in Visual Works of Art. (p. 25/1964)

Rueb, Phyllis, The Emergence of the Public Concert. (p. 23/1969)

Schultz, Kenneth, The French Horn, A Right-Handed Instrument. (p. 23/1965)

Urban, Darrell, Gotfried Reiche, Notes on His Art, Life, Instruments and Music. (p. 14/1966)

Willman, Fred, A Brief Historical Study of the Singing Schools and Shape Notes and Implications for Music Education Today. (p. 91/1976)

## INSTRUCTIONAL MATERIALS

Boughton, Harrison C., Katherine K. Davis: Life and Work. (p. 84/1974)

Casey, Robert Lowell, Serial Compositions for Band. Dissertation Abstract. (p. 115/1971)

Cramer, Eugene C., A Selected List of Art Songs in French. (p. 39/1970)

Doherty, Charles R., Twentieth Century Woodwind Quintet Music of the United States. Dissertation Abstract. (p. 108/1972)

Kalipolites, Marcus, A Programmed Course in Acoustics in Music for Junior High School. Dissertation Abstract. (p. 112/1972)

Martin, Raymond E., Eleven Selected Woodwind Concertos of Johann Melchoir Molter. Dissertation Abstract. (p. 108/1973)

Newander, Mary Clarice, The Cultural Heritage of the Metropolitan St. Louis Area as Reflected in the Songs and Folk Songs of Its European Ethnic Groups: A Collection of Songs and Folk Songs Appropriate for Use in Elementary and Junior High Schools. (p. 113/1976)

Posey, Phillip G., Instruments and Voices in Contemporary Christian Worship. (p. 83/1974)

Shoemaker, John, A Selected and Annotated Listing of 20th Century Ensembles Published for Three or More Heterogeneous Brass Instruments. Dissertation Abstract. (p. 89/1969)

Thompson, Barbara, Twentieth Century Music for Elementary School Children. (p. 12/1963)

Turpin, Douglas Leonard, The Twentieth Century: A Secondary Teacher's Guide for the Introduction of Twentieth Century Music with Emphasis Upon American Composers. (p. 89/1973)

Valenziano, Nicholas J., Twenty-One Avant Garde Compositions for Clarinet Published Between 1964 and 1972. Notational Practices and Performances Techniques. Dissertation Abstract. (p. 110/1973)

Weedman, Charles H., Some Problems of Opera Production in the Small College and Selected Appropriate Repertoire. Dissertation Abstract. (p. 111/1973)

Willis, James D., A Study of Paul Hindemith's Use of the Trombone as Seen in Selected Chamber Compositions. Dissertation Abstract. (p. 112/1973)

INSTRUCTIONAL TECHNOLOGY

Feldt, James Von, Music Teacher Classroom Technique Versus Computer Assisted Instruction. Dissertation Abstract. (p. 1120/1972)

Nelson, Gary Lee, Anton Webern's Five Canons, Opus 16: A Test Case for Computer-Aided Analysis and Synthesis of Musical Style. Dissertation Abstract. (p. 93/1975)

INSTRUMENTAL MUSIC STUDIES

Anderson, Donald K., Survey of Musical Style for Band. (p. 41/1962)

Berger, Michael E., Leopold Mozart's Partita in D: An Edition. Dissertation Abstract. (p. 78/1975)

Casey, Robert Lowell, Serial Compositions for Band. Dissertation Abstract. (p. 115/1971)

Coleman, Russell, Wind Instruments in the Seventeenth Century. (p. 5/1969)

Collins, Thomas W., The Instrumental Music of Paul Pisk. Dissertation Abstract. (p. 113/1972)

Ellingson, Donald, Automated Teaching System for Functional Piano Skills. (p. 7/1966)

Hoffer, Charles, An Exploratory Study in a Use of the Violin and Recorder as Teaching Tools in Elementary School Music Classes. (p. 36/1965)

Hummel, Donald Austin, A Selected and Annotated Bibliography of Original Works for Trombone Trio. Dissertation Abstract. (p. 119/1976)

Joseph, Don Verne, The Evolution of Symphonic Instrumentation in the Nineteenth Century. (p. 60/1970)

Kremer, Marie Johanna, The Organ in Symphonic Ensemble. Dissertation Abstract. (p. 89/1975)

Lang, John, Musical Values and the String Class. (p. 11/1962)

Langley, Richard Douglas, Sonate Concertate in Stil Moderno by Dario Castello: A Transcription of Book I. Dissertation Abstract. (p. 90/1975)

Martin, Raymond E., Eleven Selected Woodwind Concertos of Johann Melchoir Molter. Dissertation Abstract. (p. 108/1973)

Miller, Robert Melvin, The Concerto and Related Works for Low Brass: A Catalog of Compositions from c. 1700 to the Present. Dissertation Abstract. (p. 91/1975)

Ozipko, Jerry A., A Summary of the Evolution and Development of the Cadenza in the Violin Repertory Through Use of Examples. (p. 92/1970)

Price, Jeffrey Keith, A Study of Selected Twentieth-Century Compositions for Heterogeneous Brass Ensembles and Organ by United States Composers. Dissertation Abstract. (p. 117/1976)

Rinehart, Arthur, The Factors Present in the Transitional Musical Vocabulary of Alexander Nikolayevitch Scriabin which Suggest Later Compositional Techniques: An Analysis of the Composer's Fourth, Fifth, and Sixth Piano Sonatas. Dissertation Abstract. (p. 84/1975)

Schultz, Kenneth, The French Horn, A Right-Handed Instrument. (p. 23/1965)

Shoemaker, John, A Selected and Annotated Listing of 20th Century Ensembles Published for Three or More

Heterogeneous Brass Instruments. Dissertation Abstract. (p. 89/1969)

Valenziano, Nicholas J., Twenty-One Avant Garde Compositions for Clarinet Published Between 1964 and 1972. Notational Practices and Performances Techniques. Dissertation Abstract. (p. 110/1973)

Vereen, William N., A Study of Rehearsal Techniques for Symphonic Band. Dissertation Abstract. (p. 111/1971)

Warner, Roger, A Design for Comprehensive Musicianship in Senior High School Band Program. Abstract. (p. 112/1976)

Willis, James D., A Study of Paul Hindemith's Use of the Trombone as Seen in Selected Chamber Compositions. Dissertation Abstract. (p. 112/1973)

## INTERDEPARTMENTAL

Hunt, Michael F., Inter-Subject Involvement. (p. 76/1973)

Peterson, Jesse Laurence, Music Departments of Colleges or Universities and Public Schools – Interrelationships. Dissertation Abstract. (p. 114/1971)

## KEYBOARD

Ellingson, Donald, Automated Teaching System for Functional Piano Skills. (p. 7/1966)

Kelly, John D., Three Keyboard Concertos of J. C. Monn (1726-1782). Dissertation Abstract. (p. 82/1975)

Kremer, Marie Johanna, The Organ in Symphonic Ensemble. Dissertation Abstract. (p. 89/1975)

Price, Jeffrey Keith, A Study of Selected Twentieth-Century Compositions for Heterogeneous Brass Ensembles and Organ by United States Composers. Dissertation Abstract. (p. 117/1976)

Richards, William H., Trends in Piano Class Instruction 1815-1962. (p. 50/1962)

Rinehart, Arthur, The Factors Present in the Transitional Musical Vocabulary of Alexander Nikolayevitch Scriabin Which Suggest Later Compositional Techniques: An Analysis of the Composer's Fourth, Fifth, and Sixth Piano Sonatas. Dissertation Abstract. (p. 84/1975)

## RESEARCH

### Affect Attitude

Johnson, M. Orville, The Philosophies and Attitudes of Selected Music Teachers Toward Music Education. (p. 63/1963)

Milak, John, The Parker Road Project: An Experiment on the Effects of Young Audience Concerts and a Related Curriculum on the Cognitive and Affective Development of Elementary School Children. (p. 5/1972)

### Development, Maturation

Kitto, Armand, Toward the Development of a Music Curriculum Based on the Maturation of the Child. (p. 5/1962)

Van Zee, Norma, Verbal-Descriptive and Performance Responses of Kindergarten Children to Selected Musical Stimuli and Terminology. (p. 4/1974)

Zimmerman, Marilyn P., Characteristics of the Adolescent: Implications for the Listening Repertoire. (p. 84/1976)

Zimmerman, Marilyn P., Research in Music Education for Young Children. (p. 44/1975)

### Discrimination, Perception

Autry, Mollie Rose, A Study of the Effect of Hand Signs in the Development of Sight Singing Skills. Dissertation Abstract. (p. 114/1976)

7-

Lathom, Wanda, A Study of Musical Achievement of Children in an Economically Depressed Area. (p. 82/1972)

Marshall, Shelly M., Teaching Aural Skills Without Visual Aids: A Study Using Sighted and Non-Sighted Children. Thesis Abstract. (p. 122/1976)

McCurry, F. Boin, An Investigation of the Effect of Three Contrasting Types of Music on the Electric Potential Generated by the Human Brain. (p. 49/1964)

Oakley, David L., The Cumulative Attainment by Missouri High School Seniors of the Musical Learnings Stated in the Music Curriculum Guides Published by the Missouri State Department of Education. (p. 45/1972)

Wardenburg, Robert, An Experiment in Programming Rudiments of Music for Fifth Grade Students Compared to Conventional Instructional Methods. (p. 68/1969)

Warner, Roger, A Study of the Relation Between the Objective and Subjective Measurement of the Quantative Differences in Tone Quality Among Various Makes of Clarinets. (p. 36/1969)

## Evaluation, Measurement

Jetter, June Thomsen, An Evaluation of the AVII Model: A Systematic Approach to Aural-Visual Identification Instruction in Music for Young Children. Dissertation Abstract. (p. 80/1974)

Karel, Leon, The Senior Comprehensive Examination as a Means of Improving Music Theory Teaching in Missouri Colleges and Universities. (p. 5/1965)

Lathom, Wanda, A Study of Musical Achievement of Children in an Economically Depressed Area. (p. 82/1972)

LeBlanc, Albert and Helen LeBlanc, CEMREL, Inc., A Study of Placement in Music History and Music Theory in Missouri Institutions of Higher Education. (p. 31/1975)

Middleton, James A., A Matrix for Instrumental Competencies. (p. 40/1975)

Powell, Ira Chesley, A Study of the Relationship of Singing Accuracy to the Pitch-Making Abilities of Eighty-One Subjects. Dissertation Abstract. (p. 107/1970)

Warner, Roger, A Study of the Relation Between the Objective and Subjective Measurement of the Quantative Differences in Tone Quality Among Various Makes of Clarinets. (p. 36/1969)

## Methods and Philosophies

Anderson, Don, Missouri Music Educators Association and Action Research in the Schools of Missouri. (p. 5/1966)

Burmeister, Clifton A., Directions for Improvement of Research in Music Education. (p. 5/1963)

Cady, Henry, Research in Music Education: Function and Constraints. (p. 4/1970)

## Miscellaneous

Anderson, Don, Progress Report on the Action Research Project in the Schools of Missouri. (p. 3/1967)

Coppenbarger, Roger Dean, An Investigation of the Vibrating Clarinet Reed Utilizing High Speed Cinematography. Dissertation Abstract. (p. 108/1971)

McCurry, F. Bion, Progress Report on the Action Research Project in the Schools of Missouri. (p. 4/1968)

Stephenson, Jack R., Research in Action: The Transfer of Research in Music and Music Education into the Classroom. (p. 4/1971)

## SECONDARY EDUCATION

Ball, Rosalyn H., The Integration of Music Learnings in the Junior High Choral Class. (p. 80/1970)

Brown, Elwood H., A Study of the Application of Creativity in the Teaching of Secondary School Music. Dissertation Abstract. (p. 112/1971)

Burton, James William, A Comparison of Two Methods for Teaching Musical Form to Seventh Grade General Music Classes. (p. 29/1974)

Burton, James William, A Comparison of Two Methods for Teaching Musical Form to Seventh Grade General Music Classes. Dissertation Abstract. (p. 81/1975)

Duncan, Curtis D., General Music: A Music Educators Proving Ground. (p. 51/1975)

Hagan, Sister Mary Tobias, The Structural Method of Teaching Music Listening Grades K-9. Dissertation Abstract. (p. 105/1973)

Hagan, Sister M. Tobias, The Structural Organization of the Subject Matter of Music for Elementary and Junior High Curricula. (p. 64/1972)

Johnson, M. Orville, A Study of the Ratings Received by Missouri High Schools Participating in the District Music Festivals from 1959-1965. (p. 56/1966)

Kalipolites, Marcus, A Programmed Course in Acoustics in Music for Junior High School. Dissertation Abstract. (p. 112/1972)

Oakley, David L., The Cumulative Attainment by Missouri High Seniors of the Musical Learnings Stated in the Music Curriculum Guides Published by the Missouri State Department of Education. (p. 45/1972)

Warner, Roger, A Design for Comprehensive Musicianship in the Senior High School Band Program. Dissertation Abstract. (p. 112/1976)

Weitz, Lowell E., The Stage Band as Part of the High School Music Program. Dissertation Abstract. (p. 86/1969)

Yik, Stephen, A Study of the Curriculum Materials Used in Music Classes in the Primary and Secondary Schools in Taiwan from 1950-1973. Dissertation Abstract. (p. 116/1976)

## SPECIAL EDUCATION

Gagnepain, Joan Thies, Music Education and the Blind. (p. 39/1971)

Knirr, Walter H., Instrumental Music and the Cerebral Palsied Child. (p. 29/1962)

Marshall, Shelley M., Teaching Aural Skills Without Visual Aids: A Study Using Sighted and Non-Sighted Children. Thesis Abstract. (p. 122/1976)

Olsen, Angie, The Slow Learner in the High School General Music Class. (p. 21/1962)

Wurtz, Martha H., Music for the Academically Talented High School Student. (p. 25/1962)

## STATUS STUDIES

Bodanske, William H., Selected Conditions Associated with the Mobility of Missouri Secondary Public Schools. (p. 29/1970)

Bulgin, Lansing, Music Student Teaching Practices in Missouri Colleges and Universities: A Preliminary Report. (p. 15/1964)

Jacobi(y), Hugh William, American Composers Affiliated with American Colleges and Universities: Biographical Sketches, Their Productivity, Professional Status, Performance of Works, and Attitudes Towards University Patronage. Dissertation Abstract. (p. 82/1974)

Johnson, M. Orville, The Philosophies and Attitudes of Selected Music Teachers Toward Music Education. (p. 63/1963)

Johnson, M. Orville, A Study of the State Music Festivals Missouri from 1959-1966. (p. 69/1967)

Karel, Leon, Music Theory and Musicianship Teaching in Missouri Colleges and Universities: A Preliminary Report. (p. 10/1964)

Wurtz, Martha, Music History Teaching in Missouri Colleges and Universities — A Preliminary Report. (p. 5/1964)

## TEACHER EDUCATION

Bulgin, Lansing, Music Student Teaching Practices in Missouri Colleges and Universities: A Preliminary Report. (p. 15/1964)

Burgstahler, Elton, Factors Influencing the Choice and Pursuance of a Career in Music Education: A Survey and Case Approach. Dissertation Abstract. (p. 53/1967)

Hegstad, Joseph M., A Study of Interviewing Practices and Techniques Utilized in the Screening of Prospective Music Personnel in Departments of Music in Institutions of Higher Education. Dissertation Abstract. (p. 110/1971)

Labuta, Joseph A., Tension and Motion as Factors in Expressive Conducting. (p. 4/1967)

Lee, C. Loran, Developing Patterns of the Undergraduate Music Education Curriculum in the United States. Dissertation Abstract. (p. 83/1966)

## TEACHING METHODS

Bjorstrom, Neil, Orthodonic Treatment as a Factor in the Selections and Performance of Brass Musical Instruments. (p. 31/1973)

Burk, James M., Development of a Methodology for Transcribing the Organ Music of Bach for Band. (p. 85/1971)

Burton, James William, A Comparison of Two Methods for Teaching Musical Form to Seventh Grade General Music Classes. (p. 29/1974)

Burton, James William, A Comparison of Two Methods for Teaching Musical Form to Seventh Grade General Music Classes. Dissertation Abstract. (p. 81/1975)

Cook, Judith Kay, The Effect of Model Instruction on Teaching the Musical Concept "Phrase" to Second Year Band Students. Thesis Abstract. (p. 123/1976)

Feldt, James Von, Music Teacher Classroom Technique Versus Computer Assisted Instruction. Dissertation Abstract. (p. 110/1972)

Garcia, Richard O., Teaching Music Classes Through Closed-Circuit Television. (p. 28/1963)

Geders, Sister Alphonse Marie C.PP.S., A Method of Teaching Elementary Vocal Music Reading Based on Principles of Fixed Pitch. (p. 56/1962)

Hilton, Lewis B., Individualized Instruction for General Music Classes Involving the Use of Slides Projected in Synchronization with Prerecorded Tape. (p. 49/1968)

Hutcheson, Robert J., Jr., Programmed Instruction and Music Education. (p. 9/1967)

Johnson, M. Orville, Music and Media. (p. 97/1973)

Middleton, James A., A Matrix for Instrumental Competencies. (p. 40/1975)

O'Bannon, Chester Troy, A Study in Developing an Artistic Interpretation of the Song. Dissertation Abstract. (p. 80/1969)

Rollins, Karen Denise, Music in Open Education: Its Relationship to Individualization Through the Use of Learning Centers with Emphasis on Elementary Education. (p. 14/1975)

Schultz, Kenneth, The French-Horn, A Right-Handed Instrument. (p. 23/1965)

Siebers, William F., Contemporary Violin Fingering. Dissertation Abstract. (p. 108/1972)

Turpin, Douglas L., Programmed Instruction and Music Education. (p. 12/1971)

Venhouse, Sister Dorothy, Basic Method of Group Instruction for Beginning Church Organists. Dissertation Abstract. (p. 107/1971)

## VOCAL/CHORAL

Ball, Rosalyn, The Integration of Music Learnings in the Junior High Choral Class. (p. 80/1970)

Cramer, Eugene C., A Selected List of Art Songs in French. (p. 39/1979)

Curtis, Stephen Milne, Mellange de Chansons: Transcribed and Edited, with Commentary. Dissertation Abstract. (p. 87/1975)

Geders, Sister Alphonse Marie C.PP.S., A Method of Teaching Elementary Vocal Music Reading Based on Principles of Fixed Pitch. (p. 56/1962)

Hansford, Charles, An Appraisal of Group Singing of Sixth Graders, in Twenty-Five Elementary Schools, in a Midwestern City of One Hundred Thousand. (p. 42/1965)

Harris, Carl Gordon, Jr., A Study of Characteristic Stylistic Trends Found in the Choral Works of a Selected Group of Afro-American Composers and Arrangers. Dissertation Abstract. (p. 114/1972)

Johnson, Orland, Some Notes Concerning Performance of Renaissance Choral Music. (p. 34/1964)

O'Bannon, Chester Troy, A Study in Developing an Artistic Interpretation of the Song. Dissertation Abstract. (p. 80/1969)

Posey, Phillip C., Instruments and Voices in Contemporary Christian Worship. Dissertation Abstract. (p. 83/1974

Powell, Ira Chesley, A Study of the Relationship of Singing Accuracy to the Pitch-Making Abilities of Eighty-One Subjects. Dissertation Abstract. (p. 107/1970)

Walker, Pearl W., A Study in Improving the Interpretation of Selected Arias from Standard Operas. (p. 55/1962)

Weedman, Charles H., Some Problems of Opera Production in the Small College and Selected Appropriate Repertoire. Dissertation Abstract. (p. 111/1973)

# INDEX OF ARTICLES APPEARING IN THE CONTRIBUTIONS TO MUSIC EDUCATION OHIO MUSIC EDUCATION ASSOCIATION 1972-1976

## TABLE OF CONTENTS

AUTHOR . . . . . . . . . . . . . . . . . . . . . . . . . 78
TITLE . . . . . . . . . . . . . . . . . . . . . . . . . . 80
SUBJECT . . . . . . . . . . . . . . . . . . . . . . . . . 83
  Aesthetics, Musical Taste, Appreciation, Humanities . . . . . . . . . . . . . . . . . 83
  Audio-Visual . . . . . . . . . . . . . . . . . . . . 83
  Curriculum Development . . . . . . . . . . . . . . . 83
  Elementary Education . . . . . . . . . . . . . . . . 83
  Higher Education . . . . . . . . . . . . . . . . . . 84
  History, Biography . . . . . . . . . . . . . . . . . 84
  Instrumental Music . . . . . . . . . . . . . . . . . 84
  Keyboard . . . . . . . . . . . . . . . . . . . . . . 84
  Psychological Studies . . . . . . . . . . . . . . . 85
  Research . . . . . . . . . . . . . . . . . . . . . . 85
    Affect, Attitude . . . . . . . . . . . . . . . . . 85
    Development, Maturation . . . . . . . . . . . . . 85
    Discrimination, Perception . . . . . . . . . . . . 85
    Evaluation . . . . . . . . . . . . . . . . . . . . 86
    Methods and Philosophies . . . . . . . . . . . . . 86
    Miscellaneous . . . . . . . . . . . . . . . . . . 86
  Secondary Education . . . . . . . . . . . . . . . . 87
  Status Studies . . . . . . . . . . . . . . . . . . . 87
  Teacher Education . . . . . . . . . . . . . . . . . 87
  Vocal/Choral . . . . . . . . . . . . . . . . . . . . 87

## AUTHOR

ADAMS, H. LESLIE, Three Views on Range and Tessitura of Adolescent Voices. (p. 40/1973)

ANDERSON, WILLIAM M., World Music in American Education, 1916-1970. (p. 23/1974)

BARNES, STEPHEN H., The High School Instrumental Music Teacher Role: An Exploration of Interposition Consensus. (p. 62/1973)

BENNER, CHARLES H., Implications of Social Change for Music Education. (p. 7/1974)

CADY, HENRY L., Music in English Education. (p. 43/1974)

HANSEN, DuWAYNE, *Principles and Problems in Music Education*. By Regelski, Thomas A. (p. 107/1976)

HOTCHKISS, SALLY M. and DUANE SAMPLE, A Study of Personality in Relationship to Sex, Applied Music Major, and Choice of Degree Program Among College Music Students. (p. 90/1974)

INGLEFIELD, HOWARD G., Conformity Behavior Reflected in the Musical Preferences of Adolescents. (p. 56/1972)

KING, CARL D., The Conservation of Melodic Pitch Pattern by Elementary School Children as Determined by Ancien Chinese Music. (p. 85/1972)

LASKO, RICHARD, The CBDNA: A Study of Band Instrumentation. (p. 46/1972)

LOWDER, JERRY, An Experimental Study of a Keyboard Sight-Reading Test Administered to Freshman Secondar Piano Students at the Ohio State University. (p. 97/1974)

McDONALD, DOROTHY, An Assessment of the Learning Climate of a Selected Seventh-Grade General Music Class. (p. 40/1976)

MELLERS, WILFRID, Music in a Modern University: A Question of Priorities. (p. 12/1974)

PASCOE, CLIVE B., Motivational Pacing in Musical Design: An Active Force in Music Education. (p. 106/1974)

PLATT, MELVIN C., The History and Development of the American Institute of Normal Methods, 1914-1950. (p. 31/1973)

POFF, DAVID G., The Lexington Normal Music School and the American Institute of Normal Methods, 1884-1914. (p. 17/1973)

POFF, DAVID G., The National Summer School of Music Sponsored by Ginn and Company, 1888-1919. (p. 94/1976)

PRINCE, WARREN F., Some Aspects of Liking Responses of Junior High School Students for Art Music. (p. 25/1972)

REYNOLDS, KAY, Modification of the Observational System for Instructional Analysis Focusing on Appraisal Behaviors of Music Teachers in Small Performance Classes. (p. 75/1974)

SCHOLTEN, JAMES W., Lucius Chapin: A New England Singing Master on the Frontier. (p. 64/1976)

SHEHAN, PATRICIA K., A Study of the Musical and Educational Training of Newspaper Music Critics and a Sample of Their Criteria for Evaluation. (p. 53/1976)

SHOUP, EARL RICHARD, Supply and Demand for Music Teachers in Ohio: An Analysis of 1959-71 with Projections for 1976. (p. 4/1972)

SILANTIEN, JOHN J., The Contribution of William Channing Woodbridge to American Music Education. (p. 77/1976)

SISLER, HARVEY, Relative Effects of Traditional General Music and Performance Experience on the Ability to Perceive Selected Musical Events. (p. 21/1976)

TEMPLE, CHARLES P., A Study of the Effectiveness of Competition Festivals in the Music Education Process. (p. 4/1973)

THOMPSON, KEITH P., Relative Effectiveness on Aural Perception of Televised Verbal Descriptions and Visual Representations of Selected Music Events. (p. 68/1972

TROLIO, MARY FRIEDMANN, Theories of Affective Response to Music. (p. 1/1976)

TUTTLE, T. TEMPLE, Studies in the Psychology of Music Vol. X. By Gordon, Edwin, Editor. (p. 113/1976)

VANDER ARK, SHERMAN D., Learning Selected Metrical Eleme of Twentieth Century Music by Programmed Text for Hig School, College, and University Students. (p. 36/1972

WEBSTER, PETER R., Research in Music Behavior in the Classroom. By Madsen, Clifford K., R. Douglas Greer, and Charles H. Madsen, Jr. (p. 116/1976)

## TITLE

AN ASSESSMENT OF THE LEARNING CLIMATE OF A SELECTED SEVENTH-GRADE GENERAL MUSIC CLASS -- McDonald, Dorothy. (p. 40/1976)

THE CBDNA: A STUDY OF BAND INSTRUMENTATION -- Lasko, Richard. (p. 46/1972)

CONFORMITY BEHAVIOR REFLECTED IN THE MUSICAL PREFERENCE OF ADOLESCENTS -- Inglefield, Howard G. (p. 56/1972)

THE CONSERVATION OF MELODIC PITCH PATTERNS BY ELEMENTARY SCHOOL CHILDREN AS DETERMINED BY ANCIENT CHINES MUSIC -- King, Carl D. (p. 85/1972)

THE CONTRIBUTION OF WILLIAM CHANNING WOODBRIDGE TO AMER CAN MUSIC EDUCATION -- Silantien, John J. (p. 77/197

AN EXPERIMENTAL STUDY OF A KEYBOARD SIGHT-READING TEST ADMINISTERED TO FRESHMEN SECONDARY PIANO STUDENTS AT THE OHIO STATE UNIVERSITY — Lowder, Jerry. (p. 97/1974)

THE HIGH SCHOOL INSTRUMENTAL MUSIC TEACHER ROLE: AN EXPLORATION OF INTERPOSITION CONSENSUS — Barnes, Stephen H. (p. 62/1973)

THE HISTORY AND DEVELOPMENT OF THE AMERICAN INSTITUTE OF NORMAL METHODS, 1914-1950 -- Platt, Melvin C., (p. 31/1973)

IMPLICATIONS OF SOCIAL CHANGE FOR MUSIC EDUCATION -- Benner, Charles R. (p. 7/1974)

LEARNING SELECTED METRICAL ELEMENTS OF TWENTIETH CENTURY MUSIC BY PROGRAMMED TEXT FOR HIGH SCHOOL, COLLEGE, AND UNIVERSITY STUDENTS — Vander Ark, Sherman D. (p. 36/1972)

THE LEXINGTON NORMAL MUSIC SCHOOL AND THE AMERICAN INSTITUTE OF NORMAL METHODS, 1884-1914 -- Poff, David G. (p. 17/1973)

LUCIUS CHAPIN: A NEW ENGLAND SINGING MASTER ON THE FRONTIER -- Scholten, James W. (p. 64/1976)

MODIFICATION OF THE OBSERVATIONAL SYSTEM FOR INSTRUCTIONAL ANALYSIS FOCUSING ON APPRAISAL BEHAVIORS OF MUSIC TEACHERS IN SMALL PERFORMANCE CLASSES — Reynolds, Kay. (p. 75/1974)

MOTIVATIONAL PACING IN MUSICAL DESIGN: AN ACTIVE FORCE IN MUSIC EDUCATION — Pascoe, Clive B. (p. 106/1974)

MUSIC IN A MODERN UNIVERSITY: A QUESTION OF PRIORITIES — Mellers, Wilfrid. (p. 12/1974)

MUSIC IN ENGLISH EDUCATION -- Cady, Henry L. (p. 43/1974)

THE NATIONAL SUMMER SCHOOL OF MUSIC SPONSORED BY GINN AND COMPANY, 1888-1919 -- Poff, David G. (p. 94/1976)

PRINCIPLES AND PROBLEMS IN MUSIC EDUCATION. By Regelski Thomas A., Rev. by Hansen, DuWayne. (p. 107/1976)

RELATIVE EFFECTIVENESS ON AURAL PERCEPTION OF TELEVISED VERBAL DESCRIPTIONS AND VISUAL REPRESENTATIONS OF SELECTED MUSIC EVENTS -- Thompson, Keith P. (p. 68/1972)

RELATIVE EFFECTS OF TRADITIONAL GENERAL MUSIC AND PERFORMANCE EXPERIENCE ON THE ABILITY TO PERCEIVE SELECTED MUSICAL EVENTS — Sisler, Harvey (p. 21/197

RESEARCH IN MUSIC BEHAVIOR IN THE CLASSROOM. By Madsen, Clifford K., R. Douglas Greer, and Charles H. Madsen, Jr. Rev. by Webster, Peter R. (p. 116/1976)

SOME ASPECTS OF LIKING RESPONSES OF JUNIOR HIGH SCHOOL STUDENTS FOR ART MUSIC -- Prince, Warren F. (p. 25/1972)

STUDIES IN THE PSYCHOLOGY OF MUSIC VOL. X. By Gordon, Edwin, Editor. Rev. by Tuttle, T. Temple. (p. 113/1976)

A STUDY OF PERSONALITY IN RELATIONSHIP TO SEX, APPLIED MUSIC MAJOR, AND CHOICE OF DEGREE PROGRAM AMONG COLLEGE MUSIC STUDENTS -- Hotchkiss, Sally M. and Duane Sample. (p. 90/1974)

A STUDY OF THE EFFECTIVENESS OF COMPETITION FESTIVALS IN THE MUSIC EDUCATION PROCESS -- Temple, Charles P. (p. 4/1973)

A STUDY OF THE MUSICAL AND EDUCATIONAL TRAINING OF NEWSPAPER MUSIC CRITICS AND A SAMPLE OF THEIR CRITERIA FOR EVALUATION — Shehan, Patricia K. (p. 53/1976)

SUPPLY AND DEMAND FOR MUSIC TEACHERS IN OHIO: AN ANALYSIS OF 1959-71 WITH PROJECTIONS FOR 1976 — Shoup, Earl Richard. (p. 4/1972)

THEORIES OF AFFECTIVE RESPONSE TO MUSIC — Trolio, Mary Friedmann. (p. 1/1976)

THREE VIEWS ON RANGE AND TESSITURA OF ADOLESCENT VOICES -- Adams, H. Leslie. (p. 40/1973)

WORLD MUSIC IN AMERICAN EDUCATION 1916-1970 -- Anderson, William M. (p. 23/1974)

## SUBJECT

### AESTHETICS, MUSICAL TASTE, APPRECIATION, HUMANISM

Benner, Charles H., Implications of Social Change for Music Education. (p. 7/1974)

Shehan, Patricia K., A Study of the Musical and Educational Training of Newspaper Music Critics and a Sample of Their Criteria for Evaluation. (p. 53/1976)

Trolio, Mary Friedmann, Theories of Affective Response to Music. (p. 1/1976)

### AUDIO-VISUAL

Thompson, Keith P., Relative Effectiveness on Aural Perception of Televised Verbal Descriptions and Visual Representations of Selected Music Events. (p. 68/1972)

### CURRICULUM DEVELOPMENT

Anderson, William M., World Music in American Education, 1916-1970. (p. 23/1974)

Pascoe, Clive B., Motivational Pacing in Musical Design: An Active Force in Music Education. (p. 106/1974)

### ELEMENTARY EDUCATION

King, Carl D., The Conservation of Melodic Pitch Patterns by Elementary School Children as Determined by Ancient Chinese Music. (p. 85/1972)

## HIGHER EDUCATION

Mellers, Wilfrid, Music in a Modern University: A Question of Priorities. (p. 12/1974)

Vander Ark, Sherman D., Learning Selected Metrical Elements of Twentieth Century Music by Programmed Text for High School, College and University Students. (p. 36/1972)

## HISTORY, BIOGRAPHY

Platt, Melvin C., The History and Development of the American Institute of Normal Methods, 1914-1950. (p. 31/1973)

Poff, David G., The Lexington Normal Music School and the American Institute of Normal Methods, 1884-1914. (p. 17/1973)

Poff, David G., The National Summer School of Music Sponsored by Ginn and Company, 1888-1919. (p. 94/1976)

Scholten, James O., Lucius Chapin: A New England Singing Master on the Frontier. (p. 64/1976)

Silantien, John J., The Contributions of William Channing Woodbridge to American Music Education. (p. 77/1976)

## INSTRUMENTAL MUSIC

Lasko, Richard, The CBDNA: A Study of Band Instrumentation. (p. 46/1972)

## KEYBOARD

Lowder, Jerry, An Experimental Study of a Keyboard Sight-Reading Test Administered to Freshmen Secondary Piano Students at the Ohio State University. (p. 97/1974)

## PSYCHOLOGICAL STUDIES

Hotchkiss, Sally M. and Duane Sample, A Study of Personality in Relationship to Sex, Applied Music Major, and Choice of Degree Program Among College Music Students. (p. 90/1974)

Pascoe, Clive B., Motivational Pacing in Musical Design: An Active Force in Music Education. (p. 106/1974)

Tuttle, T. Temple, Studies in the Psychology of Music Vol. X. By Gordon, Edwin, Editor. (p. 113/1976)

## RESEARCH

### Affect, Attitude

Barnes, Stephen H., The High School Instrumental Music Teacher Role: An Exploration of Interposition Consensus. (p. 62/1973)

Inglefield, Howard G., Conformity Behavior Reflected in the Musical Preferences of Adolescents. (p. 56/1972)

McDonald, Dorothy, An Assessment of the Learning Climate of a Selected Seventh-Grade General Music Class. (p. 40/1976)

Prince, Warren F., Some Aspects of Liking Responses of Junior High School Students for Art Music. (p. 25/1972)

### Development, Maturation

Adams, H. Leslie, Three Views on Range and Tessitura of Adolescent Voices. (p. 40/1973)

### Discrimination, Perception

King, Carl D., The Conservation of Melodic Pitch Patterns by Elementary School Children as Determined by Ancient Chinese Music. (p. 85/1972)

Sisler, Harvey, Relative Effects of Traditional General Music and Performance Experience on the Ability to Perceive Selected Music Events. (p. 21/1976)

Thompson, Keith P., Relative Effectiveness on Aural Perception of Televised Verbal Descriptions and Visual Representations of Selected Music Events. (p. 68/1972)

Vander Ark, Sherman D., Learning Selected Metrical Elements of Twentieth Century Music by Programmed Text for High School, College, and University Students. (p. 36/1972)

### Evaluation

Reynolds, Kay, Modification of the Observational System for Instructional Analysis Focusing on Appraisal Behaviors of Music Teachers in Small Performance Classe (p. 75/1974)

Temple, Charles P., A Study of the Effectiveness of Competition Festivals in the Music Education Process (p. 4/1973)

### Methods and Philosophies

Webster, Peter R., Research in Music Behavior in the Classroom. By Madsen, Clifford K., R. Douglas Greer and Charles H. Madsen, Jr. (p. 116/1976)

### Miscellaneous

Cady, Henry L., Music in English Education. (p. 43/1974)

Hansen, DuWayne, Principles and Problems in Music Education. By Regelski, Thomas A. (p. 107/1976)

## SECONDARY EDUCATION

Adams, H. Leslie, Three Views on Range and Tessitura of Adolescent Voices. (p. 40/1973)

Inglefield, Howard G., Conformity Behavior Reflected in the Musical Preferences of Adolescents. (p. 56/1972)

McDonald, Dorothy, An Assessment of the Learning Climate of a Selected Seventh-Grade General Music Class. (p. 40/1976)

Prince, Warren F., Some Aspects of Liking Responses of Junior High School Students for Art Music. (p. 25/1972)

Sisler, Harvey, Relative Effects of Traditional General Music and Performance Experience on the Ability to Perceive Selected Musical Events. (p. 21/1976)

Vander Ark, Sherman D., Learning Selected Metrical Elements of Twentieth Century Music by Programmed Text for High School, College and University Students. (p. 36/1972)

## STATUS STUDIES

Shoup, Earl Richard, Supply and Demand for Music Teachers in Ohio: An Analysis of 1959-71 with Projections for 1976. (p. 4/1972)

## TEACHER EDUCATION

Barnes, Stephen H., The High School Instrumental Music Teacher Role: An Exploration of Interposition Consensus. (p. 62/1973)

## VOCAL/CHORAL

Adams, H. Leslie, Three Views on Range and Tessitura of Adolescent Voices. (p. 40/1973)

# INDEX OF ARTICLES APPEARING IN THE BULLETIN OF RESEARCH IN MUSIC EDUCATION PENNSYLVANIA MUSIC EDUCATORS ASSOCIATION
## 1970-1976

## TABLE OF CONTENTS

AUTHOR . . . . . . . . . . . . . . . . . . . . . . . 89

TITLE . . . . . . . . . . . . . . . . . . . . . . . 95

SUBJECT . . . . . . . . . . . . . . . . . . . . . . 100
  Aesthetics, Musical Taste, Appreciation, Humanities . . . . . . . . . . . . . . . . . . 100
  Audio-Visual . . . . . . . . . . . . . . . . . . 101
  Allied Arts . . . . . . . . . . . . . . . . . . 101
  Compiling/Cataloging . . . . . . . . . . . . . . 102
  Continuing Education . . . . . . . . . . . . . . 102
  Curriculum Development . . . . . . . . . . . . . 102
  Early Childhood Education . . . . . . . . . . . 103
  Elementary Education . . . . . . . . . . . . . . 103
  Ethnology . . . . . . . . . . . . . . . . . . . 104
  Higher Education . . . . . . . . . . . . . . . . 105
  History, Biography . . . . . . . . . . . . . . . 105
  Instructional Material . . . . . . . . . . . . . 106
  Instructional Technology . . . . . . . . . . . . 106
  Instrumental Music . . . . . . . . . . . . . . . 106
  Research . . . . . . . . . . . . . . . . . . . . 107
    Affect, Attitude . . . . . . . . . . . . . . . 107
    Discrimination, Perception . . . . . . . . . . 107
    Evaluation, Measurement . . . . . . . . . . . 108
    Methods and Philosophies . . . . . . . . . . . 108
    Miscellaneous . . . . . . . . . . . . . . . . 108
  Secondary Education . . . . . . . . . . . . . . 108
  Special Education . . . . . . . . . . . . . . . 110
  Status Studies . . . . . . . . . . . . . . . . . 110
  Teacher Education . . . . . . . . . . . . . . . 110
  Teaching Methods . . . . . . . . . . . . . . . . 111
  Vocal/Choral . . . . . . . . . . . . . . . . . . 112

# AUTHOR

ALTHOUSE, JAY L., Guitar Use in Elementary and Middle Schools. (p. 44/1976)

BOOTH, THOMAS E., The Evolution of the Instrumental Conductor. (p. 40/1976)

**BOTSIS, VIRGINIA, Five Modern Greek Folk Dances with Teaching Instructions for Use in the School Music Program. (p. 17/1973)

BOYER, SISTER ANNA MARIE, Technical Problems of Beginning Junior High School Violinists. (p. 35/1976)

BOYLE, J. DAVID, Evaluating Musical Behaviors: An Annotated Bibliography. (p. 21/1971)

CALTABIANO, MARIANNE, Elementary Music Reporting Systems: A Survey of Pennsylvania School Districts. (p. 3/1975)

**CITRO, PAULINE, A High School Unit of Study in Which Art and Music are Related to Literature of the Romantic Period. (p. 25/1970)

*COSTANZA, A. PETER, The Development and Evaluation of Programmed Instruction in Score Reading Skills. (p. 19/1970)

**CRAWFORD, JUANITA B., The Public Performance in the Elementary School and Its Effect on Vocal Achievement. (p. 27/1970)

**D'AMDROSIO, JUSTIN E., Measurement of Volume and Duration of Piano Tone. (p. 32/1970)

*DECESARE, RUTH, An Experimental Study of Selected Ethnocentric Attitudinal Change Among American Elementary School Children Toward the Culture of Japan. (p. 1/1973)

DECESARE, RUTH, PMEA "Go" Committee: Special Education. (p. 8/1974)

DEIHL, NED C., Technology Working for Instrumental Music. (p. 9/1970)

**DOUTT, SISTER M. KATHLEEN CECILIA, An Evaluation of Contem rary Choral Literature for Secondary Schools: A Recommended List with Sample Teaching Procedures. (p. 23/1970)

FARRELL, PATRICIA, A Music Experience -- What Does It "Mean"? (p. 23/1974)

*FEINBERG, SAUL, A Creative Problem-Solving Approach to the Development of Perceptive Music Listening in the Secondary School Music Literature Class. (p. 12/1973)

*FRANK, ARTHUR, Aesthetic Education: A Study of Selected Related Arts Programs in the High Schools of New Jersey. (p. 13/1971)

GAMBLE, SUE, One Approach to the Avoidance of Discipline Problems in the Junior High General Music Class. (p. 27/1976)

**GELSINGER, LORRAINE E., A Music Curriculum for Elementary Special Education Students. (p. 27/1971)

GIPSON, RICHARD C., A Comparison of Class and Private Instruction for Beginning Keyboard Percussionists. (p. 31/1976)

GOODMAN, CAROL L., The Open School and Its Implication for Music Education. (p. 38/1975)

HARGIS, KATHERINE E., LYNETT RITZENTHALER, RONALD E. SCHAFER, AND FRANK C. SMITH, JR., A Study of College Musicians Preferences for Just Intonation and Equal Temperment. (p. 40/1975)

JESSUP, LINDA LEE, Innovative Vocal Techniques in Indeterminate Choral Music. (p. 36/1975)

LAVERTY, GRACE E., The Status of Music in Pennsylvania Schools. (p. 5/1970)

**LIEHE, JOAN A., A Curriculum for Instrumental Music in the Ghetto Elementary School. (p. 28/1971)

MALINOSKI, JAMES T., The Effects of Instrumental Music on the Reading Comprehension of Elementary Students. (p. 20/1976)

**MANNI, PATRICIA, A Study of the Relationship Between Musical Aptitude and Phonetic Abilities of Students in Second and Third Grades. (p. 21/1972)

MAY, JAMES D., Doctoral Research: A Practical Resource for Teachers. (p. 28/1974)

*MERRELL, RICHARD C., The Development and Evaluation of a Self-Instructional Packet to Change the Questioning Techniques of Music Student Teachers. (p. 19/1973)

MERRELL, RICHARD C., and ROBERT C. JONES, Mini-Courses: A Case History Approach. (p. 9/1976)

MERRELL, RICHARD C., and ROBERT C. JONES, PMEA "Go" Committee: Mini-Courses. (p. 3/74)

**MILLER, HOPE CRITTENDEN, Music in an Elementary School Project for Normalization in Special Education. (p. 28/1973)

**MOLINICH, ALEX, JR., A Correlation Study of Musical Ability and Intelligence as Related to Instrumental Music Achievement. (p. 31/1970)

NOYES, WILLIAM G. and DAVID BOYLE, Seventh and Eighth Grade General Music Students' Musical Interests: An Inventory with Some Implications for Teaching. (p. 4/1972)

ODEN, JAMES R., Improvising and Young Children: A Search to Help Children do Music. (p. 14/1974)

*PARTCHEY, KENNETH CARLTON, The Effects of Feedback, Models and Repetition on the Ability to Improvise Melodies. (p. 9/1973)

PARTCHEY, KENNETH C. and J. DAVID BOYLE, A Self-Instructional Course in Melodic Improvisation: Some Effects on College Non-Music Majors. (p. 25/1975)

PEARLBERG, HENRY L., A Survey of New Programs in Courses in the Arts in Pennsylvania. (p. 16/1975)

PFLIEGER, DONALD E., A College-Preparatory Course of Study in the Elements of Music Theory for Grades Eleven and Twelve. (p. 15/1973)

RADOCY, RUDOLF E., Using Data in Your School. (p. 15/1971)

RADOCY, RUDOLF E., Using Data in Your School, Part II: Correlation. (p. 9/1972)

RENTSCHLER, DAVID M., A History of the Music Program at West Chester State College, 1871-1969. (p. 13/1972)

REVICKI, ROBERT, Electronic Music Survey: Pennsylvania Colleges and Universities that Offer Music and Music Education Degrees. (p. 22/1973)

REVICKI, ROBERT, Electronic Music Survey: Pennsylvania Public Secondary Schools. (p. 1/1972)

REVICKI, ROBERT, Interdisciplinary Arts Survey: Pennsylvania Colleges and Universities that Prepare Art, Music and English Teachers. (p. 25/1973)

ROACH, DONALD W., Automated Aural-Visual Music Theory Instruction for Elementary Education Majors. (p. 26/1974)

*ROACH, DONALD W., Programmed Aural-Visual Music Notation Instruction for Upper Elementary School Children. (p. 23/1972)

**ROHRER, ERME, A Survey of the Utilization of Music in Special Education for Elementary Age Educable Mentally Retarded Students. (p. 30/1973)

ROMANEK, MARY LOU, Early Childhood Programs in Pennsylvania Colleges and Universities. (p. 10/1975)

ROMANEK, MARY LOU and MARJORIE KEMPER, PMEA "Go" Committee: Music in Early Childhood. (p. 6/1974)

*ROMANEK, MARY LOU, A Self-Instructional Program for the Development of Musical Concepts in Preschool Children. (p. 19/1974)

ROUTCH, ALICE, PMEA "Go" Committee: Music in Non-Traditional Schools. (p. 10/1974)

SANZOTTI, VINCENT, A Mini-Course Musical Rehearsal Schedule. (p. 13/1974)

*SCHATKOWSKI, EDWIN, The Effects of Sound Distortion in Music Reproduction Equipment on Aural Perception. (p. 16/1972)

SCHMALSTIEG, EMILY L., The Effects of Five Experimental Factors on the Musical Aptitude Scores of Junior High School Students. (p. 3/1976)

**SHANNON, FRANKLIN J., An Examination of the Music Curriculums of the Junior/Community Colleges Near West Chester State College. (p. 21/1970)

SHULL, CARL N., The Development of an Annotated Guide to Music by Distinguished Composers for Children's Voices. (p. 8/1971)

**SIMON, MARGARET K., An Investigation of the Goals of Singing Activities in the Elementary School. (p. 28/1970)

SIMPSON, JOHN O., Music in the Therapeutic Rehabilitation of Exceptional Children. (p. 38/1976)

SINGLETON, IRA C., Graduate Research in Music Education in Pennsylvania Colleges and Universities. (p. 37/1974)

SPAID, MARLENE E., A History of the Music Department at Edinboro State College from 1860-1920. (p. 31/1975)

SPRENKLE, CHARLES A., A Study of Correlations Among Pre-Entrance Evaluations and Achievement in the Undergraduate Music Education at the School of Music, West Chester State College, (p. 14/1970)

SUTKUS, CAROLINE, Attitudes of Non-Music Personnel Toward an Elementary School Vocal Music Program. (p. 7/1973)

SWANZY, DAVID. Computer Use for Information Retrieval in Music Education. (p. 5/1971)

SWANZY, DAVID, The Effectiveness of Four Types of Information Dissemination for Announcing State-Wide Music Workshops. (p. 34/1974)

**TRAYER, RONALD R. and PAULA W. TRAYER, An Historical Survey of Community Bands and Choruses in York County. (p. 31/1973)

TROLLINGER, LORIE, A Research Project to Improve the Musical Preparation of Classroom Teachers. (p. 15/1976)

*TRUAX, BENNIE S., Development of a Verbal Technique for Identifying Children's Musical Concepts of Instrumental Timbre. (p. 18/1972)

*WAREHAM, DUANE E., The Development and Evaluation of Objective Criteria for Grading Band Music into Six Levels of Difficulty. (p. 12/1970)

WOSKOWIAK, LEONA FRANCES, The Effect of Chanting Rhythm Syllables on Rhythm Reading. (p. 10/1971)

**ZOCKOLL, GLENN A., An Experiment in Composing by Primary Children. (p. 29/1970)

## TITLE

AESTHETIC EDUCATION: A STUDY OF SELECTED RELATED ARTS PROGRAMS IN THE HIGH SCHOOLS OF NEW JERSEY — Frank, Arthur. (p. 13/1971)

ATTITUDES OF NON-MUSIC PERSONNEL TOWARD AN ELEMENTARY SCHOOL VOCAL MUSIC PROGRAM — Sutkus, Caroline. (p. 7/1973)

*AUTOMATED AURAL-VISUAL MUSIC THEORY INSTRUCTION FOR ELEMENTARY EDUCATION MAJORS — Roach, Donald W. (p. 26/1974)

A COLLEGE-PREPARATORY COURSE OF STUDY IN THE ELEMENTS OF MUSIC THEORY FOR GRADES ELEVEN AND TWELVE -- Pflieger, Donald E. (p. 15/1973)

A COMPARISON OF CLASS AND PRIVATE INSTRUCTION FOR BEGINNING KEYBOARD PERCUSSIONISTS -- Gipson, Richard C. (p. 31/1976)

COMPUTER USE FOR INFORMATION RETRIEVAL IN MUSIC EDUCATION — Swanzy, David (p. 5/1971)

**A CORRELATION STUDY OF MUSICAL ABILITY AND INTELLIGENCE AS RELATED TO INSTRUMENTAL MUSIC ACHIEVEMENT -- Molinich, Alex, Jr. (p. 31/1970)

*A CREATIVE PROBLEM-SOLVING APPROACH TO THE DEVELOPMENT OF PERCEPTIVE MUSIC LISTENING IN THE SECONDARY SCHOOL MUSIC LITERATURE CLASS -- Feinberg, Saul. (p. 12/1973)

**A CURRICULUM FOR INSTRUMENTAL MUSIC IN THE GHETTO ELEMENTARY SCHOOL -- Liehe, Joan A. (p. 28/1971)

*THE DEVELOPMENT AND EVALUATION OF A SELF-INSTRUCTIONAL PACKET TO CHANGE THE QUESTIONING TECHNIQUES OF MUSIC STUDENT TEACHERS -- Merrell, Richard C. (p. 19/1973)

*THE DEVELOPMENT AND EVALUATION OF OBJECTIVE CRITERIA FOR GRADING BAND MUSIC INTO SIX LEVELS OF DIFFICULTY — Wareham, Duane E. (p. 12/1970)

*THE DEVELOPMENT AND EVALUATION OF PROGRAMMED INSTRUCTION IN SCORE READING SKILLS -- Costanza, A. Peter. (p. 19/1970)

*DEVELOPMENT OF A VERBAL TECHNIQUE FOR IDENTIFYING CHILDREN'S MUSICAL CONCEPTS OF INSTRUMENTAL TIMBRE — Truax, Bennie S. (p. 18/1972)

THE DEVELOPMENT OF AN ANNOTATED GUIDE TO MUSIC BY DISTINGUISHED COMPOSERS FOR CHILDREN'S VOICES -- Shull, Carl N. (p. 8/1971)

DOCTORAL RESEARCH: A PRACTICAL RESOURCE FOR TEACHERS — May, James D. (p. 28/1974)

EARLY CHILDHOOD PROGRAMS IN PENNSYLVANIA COLLEGES AND Universities -- Romanek, Mary Lou. (p. 10/1975)

THE EFFECT OF CHANTING RHYTHM SYLLABLES ON RHYTHM READING -- Woskowiak, Leona Frances. (p. 10/1971)

THE EFFECTIVENESS OF FOUR TYPES OF INFORMATION DISSEMINATION FOR ANNOUNCING STATE-WIDE WORKSHOPS -- Swanzy, David. (p. 34/1974)

*THE EFFECTS OF FEEDBACK, MODELS AND REPETITION ON THE ABILITY TO IMPROVISE MELODIES -- Partchey, Kenneth Carlton. (p. 9/1973)

THE EFFECTS OF FIVE EXPERIMENTAL FACTORS ON THE MUSICAL APTITUDE SCORES OF JUNIOR HIGH SCHOOL STUDENTS -- Schmalstieg, Emily L. (p. 3/1976)

THE EFFECTS OF INSTRUMENTAL MUSIC ON THE READING COMPREHENSION OF ELEMENTARY STUDENTS -- Malinoski, James T. (p. 20/1976)

*THE EFFECTS OF SOUND DISTORTION IN MUSIC REPRODUCTION EQUIPMENT ON AURAL PERCEPTION -- Schatkowski, Edwin. (p. 16/1972)

ELECTRONIC MUSIC SURVEY: PENNSYLVANIA COLLEGES AND UNIVERSITIES THAT OFFER MUSIC AND MUSIC EDUCATION DEGREES -- Revicki, Robert. (p. 22/1973)

ELECTRONIC MUSIC SURVEY: PENNSYLVANIA PUBLIC SECONDARY SCHOOLS -- Revicki, Robert. (p. 1/1972)

ELEMENTARY MUSIC [illegible] SYSTEMS [illegible] SYLVANIA SCHOOL DISTRICTS -- Caltabiano, Marianne. (p. 3/1975)

BEST COPY AVAILABLE

EVALUATING MUSICAL BEHAVIORS: AN ANNOTATED BIBLIOGRAPHY — Boyle, J. David. (p. 21/1971)

**AN EVALUATION OF CONTEMPORARY CHORAL LITERATURE FOR SECONDARY SCHOOLS -- Doutt, Sister M. Kathleen Cecilia. (p. 23/1970)

THE EVOLUTION OF THE INSTRUMENTAL CONDUCTOR — Booth, Thomas. (p. 40/1976)

**AN EXAMINATION OF THE MUSIC CURRICULUMS OF THE JUNIOR/COMMUNITY COLLEGES NEAR WEST CHESTER STATE COLLEGE — Shannon, Franklin J. (p. 21/1970)

**AN EXPERIMENT IN COMPOSING BY PRIMARY CHILDREN -- Zockoll, Glenn A. (p. 29/1970)

*AN EXPERIMENTAL STUDY OF SELECTED ETHNOCENTRIC ATTITUDINAL CHANGE AMONG AMERICAN ELEMENTARY SCHOOL CHILDREN TOWARD THE CULTURE OF JAPAN -- Decesare, Ruth. (p. 1/1973)

**FIVE MODERN GREEK FOLK DANCES WITH TEACHING INSTRUCTIONS FOR USE IN THE SCHOOL MUSIC PROGRAM -- Botsis, Virginia. (p. 17/1973)

GRADUATE RESEARCH IN MUSIC EDUCATION IN PENNSYLVANIA COLLEGES AND UNIVERSITIES -- Singleton, Ira C. (p. 37/1974)

GUITAR USE IN ELEMENTARY AND MIDDLE SCHOOLS -- Althouse, Jay L. (p. 44/1976)

**A HIGH SCHOOL UNIT OF STUDY IN WHICH ART AND MUSIC ARE RELATED TO LITERATURE OF THE ROMANTIC PERIOD — Citro, Pauline. (p. 25/1970)

**AN HISTORICAL SURVEY OF COMMUNITY BANDS AND CHORUSES IN YORK COUNTY -- Thayer, Ronald R. and Paul W. Thayer. (p. 31/1973)

A HISTORY OF THE MUSIC [illegible] [illegible] BORO STATE COLLEGE FROM 1860-1920 -- Spaid, Marlene E. (p. 31/1975)

A HISTORY OF THE MUSIC PROGRAM AT WEST CHESTER STATE COLLEGE, 1871-1969 — Rentschler, David M. (p. 13/1972)

IMPROVISING AND YOUNG CHILDREN: A SEARCH TO HELP CHILDREN DO MUSIC -- Oden, James R. (p. 14/1974)

INNOVATIVE VOCAL TECHNIQUES IN INDETERMINATE CHORAL MUSIC -- Jessup, Linda Lee. (p. 36/1975)

INTERDISCIPLINARY ARTS SURVEY: PENNSYLVANIA COLLEGES AND UNIVERSITIES THAT PREPARE ART, MUSIC AND ENGLISH TEACHERS -- Revicki, Robert. (p. 25/1973)

**AN INVESTIGATION OF THE GOALS OF SINGING ACTIVITIES IN THE ELEMENTARY SCHOOL -- Simon, Margaret K. (p. 28/1970)

**MEASUREMENT OF VOLUME AND DURATION OF PIANO TONE -- D'Amdrosio, Justin E. (p. 32/1970)

A MINI-COURSE MUSICAL REHEARSAL SCHEDULE -- Sanzotti, Vincent. (p. 13/1974)

MINI-COURSE: A CASE HISTORY APPROACH -- Merrell, Richard C. and Robert C. Jones. (p. 9/1976)

**A MUSIC CURRICULUM FOR ELEMENTARY SPECIAL EDUCATION STUDENTS -- Gelsinger, Lorraine E. (p. 27/1971)

A MUSIC EXPERIENCE -- WHAT DOES IT "MEAN"? -- Farrell, Patricia. (p. 23/1974)

**MUSIC IN AN ELEMENTARY SCHOOL PROJECT FOR NORMALIZATION IN SPECIAL EDUCATION -- Miller, Hope Crittenden. (p. 28/1973)

MUSIC IN THE THERAPEUTIC REHABILITATION OF EXCEPTIONAL CHILDREN -- Simpson, John O. (p. 38/1976)

ONE APPROACH TO THE AVOIDANCE OF DISCIPLINE PROBLEMS IN T
JUNIOR HIGH GENERAL MUSIC CLASS -- Gamble, Sue. (p.27/19

THE OPEN SCHOOL AND ITS IMPLICATION FOR MUSIC EDUCATION -- Goodman, Carol L. (p. 38/1975)

PENNSYLVANIA COLLEGES AND UNIVERSITIES THAT PREPARE ART, MUSIC AND ENGLISH TEACHERS -- Revicki, Robert. (p. 25/1973)

PMEA "GO" COMMITTEE: MINI-COURSES -- Merrell, Richard C. and Robert C. Jones. (p. 3/1974)

PMEA "GO" COMMITTEE: MUSIC IN EARLY CHILDHOOD -- Romanek, Mary Lou and Marjorie Kemper. (p. 6/1974)

PMEA "GO" COMMITTEE: MUSIC IN NON-TRADITIONAL SCHOOLS -- Routch, Alice. (p. 10/1974)

PMEA "GO" COMMITTEE: SPECIAL EDUCATION -- Decesare, Ruth. (p. 8/1974)

*PROGRAMMED AURAL-VISUAL MUSIC NOTATION INSTRUCTION FOR UPPER ELEMENTARY SCHOOL CHILDREN -- Roach, Donald W. (p. 23/1972)

**THE PUBLIC PERFORMANCE IN THE ELEMENTARY SHCOOL AND ITS EFFECT ON VOCAL ACHIEVEMENT -- Crawford, Juanity B. (p. 27/1970)

A RESEARCH PROJECT TO IMPROVE THE MUSICAL PREPARATION OF CLASSROOM TEACHERS -- Trollinger, Lorie. (p. 15/1976)

A SELF-INSTRUCTIONAL COURSE IN MELODIC IMPROVISATION: SOME EFFECTS ON COLLEGE NON-MUSIC MAJORS -- Partchey, Kenneth C. and J. David Boyle. (p. 25/1975)

*A SELF-INSTRUCTIONAL PROGRAM FOR THE DEVELOPMENT OF MUSICAL CONCEPTS IN PRESCHOOL CHILDREN -- Romanek, Mary Lou. (p. 19/1974)

SEVENTH AND EIGHTH GRADE GENERAL MUSIC STUDENTS' MUSICAL INTERESTS: AN INVENTORY WITH SOME IMPLICATIONS FOR TEACHING -- Noyes, William G. and J. David Boyle. (p. 4/1972)

THE STATUS OF MUSIC IN PENNSYLVANIA SCHOOL -- Laverty, Grace E. (p. 5/1970)

A STUDY OF COLLEGE MUSICIANS PREFERENCES FOR JUST INTONATION AND EQUAL TEMPERMENT -- Hargis, Katherine E., et al. (p. 40/1975)

A STUDY OF CORRELATIONS AMONG PRE-ENTRANCE EVALUATIONS AND ACHIEVEMENT IN THE UNDERGRADUATE MUSIC EDUCATION AT THE SCHOOL OF MUSIC, WEST CHESTER STATE COLLEGE -- Sprenkle, Charles A. (p. 14/1970)

**A STUDY OF THE RELATIONSHIP BETWEEN MUSICAL APTITUDE AND PHONETIC ABILITIES OF STUDENTS IN SECOND AND THIRD GRADES -- Manni, Patricia. (p. 21/1972)

A SURVEY OF NEW PROGRAMS IN COURSES IN THE ARTS IN PENNSYLVANIA -- Pearlberg, Henry. (p. 16/1975)

**A SURVEY OF THE UTILIZATION OF MUSIC IN SPECIAL EDUCATION FOR ELEMENTARY AGE EDUCABLE MENTALLY RETARDED STUDENTS -- Rohrer, Erma. (p. 30/1973)

TECHNICAL PROBLEMS OF BEGINNING JUNIOR HIGH SCHOOL VIOLINISTS -- Boyer, Sister Anna Marie. (p. 35/1976)

TECHNOLOGY WORKING FOR INSTRUMENTAL MUSIC -- Deihl, Ned C. (p. 9/1970)

USING DATA IN YOUR SCHOOL -- Radocy, Rudolf E. (p. 15/1971)

USING DATA IN YOUR SCHOOL, PART II: CORRELATION -- Radocy, Rudolf E. (p. 9/1972)

## SUBJECT

### AESTHETICS, MUSICAL TASTE, APPRECIATION, HUMANITIES

Farrell, Patricia, A Music Experience -- What Does It "Mean"? (p. 23/1974)

*Frank, Arthur, Aesthetic Education: A Study of Selected Related Arts Programs in the High Schools of New Jersey. (p. 13/1971)

## AUDIO-VISUAL

Revicki, Robert, Electronic Music Survey: Pennsylvania Public Secondary Schools. (p. 1/1972)

Revicki, Robert, Electronic Music Survey: Pennsylvania Colleges and Universities that Offer Music and Music Education Degrees. (p. 22/1973)

Roach, Donald W., Automated Aural-Visual Music Theory Instruction for Elementary Education Majors. (p. 26/1974)

*Roach, Donald W., Programmed Aural-Visual Music Notation Instruction for Upper Elementary School Children. (p. 23/1972)

## ALLIED ARTS

**Citro, Pauline, A High School Unit of Study in Which Art and Music are Related to Literature of the Romantic Period. (p. 25/1970)

*Frank, Arthur, Aesthetic Education: A Study of Selected Related Arts Programs in the High Schools of New Jersey. (p. 13/1971)

**Manni, Patricia, A Study of the Relationship Between Musical Aptitude and Phonetic Abilities of Students in Second and Third Grades. (p. 21/1972)

Pearlberg, Henry L., A Survey of New Programs in Courses in the Arts in Pennsylvania. (p. 16/1975)

Revicki, Robert, Interdisciplinary Arts Survey: Pennsylvania Colleges and Universities that Prepare Art, Music and English Teachers. (p. 25/1973)

Sanzotti, Vincent, A Mini-Course Musical Rehearsal Schedule. (p. 13/1974)

COMPILING/CATALOGING

Shull, Carl N., The Development of an Annotated Guide to Music by Distinguished Composers for Children's Voices. (p. 8/1971)

Singleton, Ira C., Graduate Research in Music Education in Pennsylvania Colleges and Universities. (p. 37/ 1974)

CONTINUING EDUCATION

Farrell, Patricia, A Music Experience -- What Does It "Mean"? (p. 23/1974)

**Trayer, Ronald T., and Paula W. Trayer, An Historical Survey of Community Bands and Choruses in York County. (p. 31/1973)

CURRICULUM DEVELOPMENT

Merrell, Richard C. and Robert C. Jones, Mini-Courses: A Case History Approach. (p. 9/1976)

Merrell, Richard C. and Robert C. Jones, PMEA "Go" Committee: Mini-Courses. (p. 3/1974)

Noyes, William G. and J. David Boyle, Seventh and Eighth Grade General Music Students' Musical Interests: An Inventory with some Implications for Teaching (p. 4/ 1972)

Pflieger, Donald E., A College-Preparatory Course of Study in the Elements of Music Theory for Grades Eleven and Twelve. (p. 15/1973)

*Romanek, Mary Lou, A Self-Instructional Program for the Development of Musical Concepts in Preschool Children (p. 19/1974)

*Truax, Bennie S., Development of a Verbal Technique for Identifying Children's Musical Concepts of Instrumental Timbre. (p. 18/1972)

## EARLY CHILDHOOD EDUCATION

Romanek, Mary Lou, Early Childhood Programs in Pennsylvania Colleges and Universities. (p. 10/1975)

*Romanek, Mary Lou, A Self-Instructional Program for the Development of Musical Concepts in Preschool Children. (p. 19/1974)

Romanek, Mary Lou and Marjorie Kemper, PMEA "Go" Committee: Music in Early Childhood. (p. 6/1974)

## ELEMENTARY EDUCATION

Althouse, Jay L., Guitar Use in Elementary and Middle Schools. (p. 44/1976)

**Crawford, Juanita B., The Public Performance in the Elementary School and Its Effect on Vocal Achievement. (p. 27/1970)

*Decesare, Ruth, An Experimental Study of Selected Ethnocentric Attitudinal Change Among American Elementary School Children Toward the Culture of Japan. (p. 1/1973)

**Gelsinger, Lorraine E., A Music Curriculum for Elementary Special Education Students. (p. 27/1971)

**Liehe, Joan A., A Curriculum for Instrumental Music in the Ghetto Elementary School. (p. 28/1971)

Malinoski, James T., The Effects of Instrumental Music on the Reading Comprehension of Elementary Students. (p. 20/1976)

**Manni, Patricia, A Study of the Relationship Between Musical Aptitude and Phonetic Abilities of Students in Second and Third Grades. (p. 21/1972)

May, James D., Doctoral Research: A Practical Resource for Teachers. (O. 28/1974)

**Miller, Hope Crittenden, Music in an Elementary School Project for Normalization in Special Education. (p. 28/1973)

Oden, James R., Improvising and Young Children: A Search to Help Children do Music. (p. 14/1974)

*Partchey, Kenneth Carlton, The Effects of Feedback, Models and Repetition on the Ability to Improvise Melodies. (p. 9/1973)

*Roach, Donald W., Programmed Aural-Visual Music Notation Instruction for Upper Elementary School Children. (p. 23/1972)

**Rohrer, Erma, A Survey of the Utilization of Music in Special Education for Elementary Age Educable Mentally Retarded Students. (p. 30/1973)

Shull, Carl N., The Development of an Annotated Guide to Music by Distinguished Composers for Children's Voices. (p. 8/1971)

**Simon, Margaret K., An Investigation of the Goals of Singing Activities in the Elementary School. (p. 28/1970)

*Truax, Bennie S., Development of a Verbal Technique for Identifying Children's Musical Concepts of Instrumental Timbre. (p. 18/1972)

**Zockoll, Glenn A., An Experiment in Composing by Primary Children. (p. 29/1970)

## ETHNOLOGY

**Botsis, Virginia, Five Modern Greek Folk Dances with Teaching Instructions for Use in the School Music Program. (p. 17/1973)

*Decesare, Ruth. An Experimental Study of Selected Ethnocentral Attitudinal Change Among American Elementary School Children Toward the Culture of Japan. (p. 1/1973)

## HIGHER EDUCATION

Partchey, Kenneth C. and J. David Boyle, A Self-Instructional Course in Melodic Improvisation: Some Effects on College Non-Music Majors. (p. 25/1975)

Revicki, Robert, Interdisciplinary Arts Survey: Pennsylvania Colleges and Universities that Prepare Art, Music and English Teachers. (p. 25/1973)

Revicki, Robert, Electronic Music Survey: Pennsylvania Colleges and Universities that Offer Music and Music Education Degrees. (p. 22/1973)

Roach, Donald W., Automated Aural-Visual Music Theory Instruction for Elementary Education Majors. (p. 26/1974)

Shannon, Franklin J., An Examination of the Music Curriculums of the Junior/Community Colleges Near West Chester State College. (p. 21/1970)

Singleton, Ira C., Graduate Research in Music Education in Pennsylvania Colleges and Universities. (p. 37/1974)

Sprenkle, Charles A., A Study of Correlations Among Pre-Entrance Evaluations and Achievement in the Undergraduate Music Education at the School of Music, West Chester State College. (p. 14/1970)

## HISTORY, BIOGRAPHY

Booth, Thomas E., The Evolution of the Instrumental Conductor. (p. 40/1976)

Rentschler, David M., A History of the Music Program at West Chester State College, 1871-1969. (p. 13/1972)

Spaid, Marlene E., A History of the Music Department at Edinboro State College from 1860-1920. (p. 31/1975)

**Trayer, Ronald T., and Paula W. Trayer, An Historical Survey of Community Bands and Choruses in York County. (p. 31/1973)

### INSTRUCTIONAL MATERIAL

**Botsis, Virginia, Five Modern Greek Folk Dances with Teaching Instrudtions for Use in the School Music Program. (p. 17/1973)

Jessup, Linda Lee, Innovative Vocal Techniques in Indeterminate Choral Music. (p. 36/1975)

May, James D., Doctoral Research: A Practical Resource for Teachers. (p. 28/1974)

### INSTRUCTIONAL TECHNOLOGY

Deihl, Ned C., Technology Working for Instrumental Music. (p. 9/1970)

Revicki, Robert, Electronic Music Survey: Pennsylvania Public Secondary Schools. (p. 1/1972)

Revicki, Robert, Electronic Music Survey: Pennsylvania Colleges and Universities that Offer Music and Music Education Degrees. (p. 22/1973)

Swanzy, David, Computer Use for Information Retrieval in Music Education. (p. 5/1971)

### INSTRUMENTAL MUSIC

Althouse, Jay L., Guitar Use in Elementary and Middle Schools. (p. 44/1976)

Booth, Thomas E., The Evolution of the Instrumental Conductor. (p. 40/1976)

Boyer, Sister Anna Marie, Technical Problems of Beginnine Junior High School Violinists. (p. 35/1976)

Deihl, Ned C., Technology Working for Instrumental Music. (p. 9/1970)

Malinoski, James T., The Effects of Instrumental Music on the Reading Comprehension of Elementary Students. (p. 20/1976)

**Molinich, Alex, Jr., A Correlation Study of Musical Ability and Intelligence as Related to Instrumental Music Achievement. (p. 31/1970)

*Wareham, Duane E., The Development and Evaluation of Objective Criteria for Grading Band Music Into Six Levels of Difficulty. (p. 12/1970)

RESEARCH

Affect, Attitude

Hargis, Katherine E., et al., A Study of College Musicians Preferences for Just Intonation and Equal Temperment. (p. 40/1975)

Noyes, William G. and J. David Boyle, Seventh and Eighth Grade General Music Students' Musical Interests: An Inventory with Some Implications for Teaching. (p. 4/1972)

Sutkus, Caroline, Attitudes of Non-Music Personnel Toward an Elementary School Vocal Music Program. (p. 7/1973)

Swanzy, David, The Effectiveness of Four Types of Information Dissemination for Announcing State-Wide Music Workshops. (p. 34/1974)

Discrimination, Perception

*Schatkowski, Edwin, The Effects of Sound Distortion in Music Reproduction Equipment on Aural Perception. (p. 16/1972)

*Truax, Bennie S., Development of a Verbal Technique for Identifying Children's Musical Concepts of Instrumental Timbre. (p. 18/1972)

Woskowiak, Leona Frances, The Effect of Chanting Rhythm Syllables on Rhythm Reading. (p. 10/1971)

Evaluation, Measurement

Boyle, Sister Anna Marie, Technical Problems of Beginning Junior High School Violinists. (p. 35/1976)

**D'Amdrosio, Justin E., Measurement of Volume and Duration of Piano Tone. (p. 32/1970)

Sprenkle, Charles A., A Study of Correlations Among Pre-Entrance Evaluations and Achievement in the Undergraduate Music Education at the School of Music, West Chester State College. (p. 14/1970)

Methods and Philosophies

Radocy, Rudolf E., Using Data in Your School. (p. 15/1971)

Radocy, Rudolf E., Using Data in Your School, Part II: Correlation. (p. 9/1972)

Swanzy, David, Computer Use for Information Retrieval in Music Education. (p. 5/1971)

Miscellaneous

Caltabiano, Marianne, Elementary Music Reporting Systems: A Survey of Pennsylvania School Districts. (p. 3/1975)

SECONDARY EDUCATION

Althouse, Jay L., Guitar Use in Elementary and Middle Schools. (p. 44/1976)

Boyer, Sister Anna Marie, Technical Problems of Beginning Junior High School Violinists. (p. 35/1976)

**Citro, Pauline, A High School Unit of Study in Which Art and Music are Related to Literature of the Romantic Period. (p. 25/1970)

**Doutt, Sister M. Kathleen Cecilia, An Evaluation of Contemporary Choral Literature for Secondary Schools. (p. 23/1970)

*Feinberg, Saul, A Creative Problem-Solving Approach to the Development of Perceptive Music Listening in the Secondary School Music Literature Class. (p. 12/1973)

*Frank, Arthur, Aesthetic Education: A Study of Selected Related Arts Programs in the High Schools of New Jersey. (p. 13/1971)

Gamble, Sue, One Approach to the Avoidance of Discipline Problems in the Junior High General Music Class. (p. 27/1976)

May, James D., Doctoral Research: A Practical Resource for Teachers. (p. 28/1974)

Merrell, Richard C. and Robert C. Jones, Mini-Courses: A Case History Approach. (p. 9/1976)

Noyes, William G. and J. David Boyle, Seventh and Eighth Grade General Music Students' Musical Interests: An Inventory with Some Implications for Teaching. (p. 4/1972)

Pflieger, Donald E., A College-Preparatory Course of Study in the Elements of Music Theory for Grades Eleven and Twelve. (p. 15/1973)

Revicki, Robert, Electronic Music Survey: Pennsylvania Public Secondary Schools. (p. 1/1972)

Schmalstieg, Emily L., The Effects of Five Experimental Factors on the Musical Aptitude Scores of Junior High School Students. (p. 3/1976)

## SPECIAL EDUCATION

Decesare, Ruth, PMEA "Go" Committee: Special Education. (p. 8/1974)

**Gelsinger, Lorraine E., A Music Curriculum for Elementary Special Education Students. (p. 27/1971)

**Liehe, Joan A., A Curriculum for Instrumental Music in the Ghetto Elementary School. (p. 28/1971)

**Miller, Hope Crittenden, Music in an Elementary School Project for Normalization in Special Education. (p. 28/1973)

**Rohrer, Erma, A Survey of the Utilization of Music in Special Education for Elementary Age Educable Mentally Retarded Students. (p. 30/1973)

Routch, Alice, PMEA "Go" Committee: Music in Non-Traditional Schools. (p. 10/1974)

Simpson, John O., Music in the Therapeutic Rehabilitation of Exceptional Children. (p. 38/1976)

## STATUS STUDIES

*Frank, Arthur, Aesthetic Education: A Study of Selected Related Arts Programs in the High Schools of New Jersey. (p. 13/1971)

Laverty, Grace E., The Status of Music in Pennsylvania Schools. (p. 5/1970)

Pearlberg, Henry L., A Survey of New Programs in Courses in the Arts in Pennsylvania. (p. 16/1975)

## TEACHER EDUCATION

*Merrell, Richard C., The Development and Evaluation of a Self-Instructional Packet to Change the Questioning Techniques of Music Student Teachers. (p. 19/1973)

Trollinger, Lorie, A Research Project to Improve the Musical Preparation of Classroom Teachers. (p. 15/1976)

TEACHING METHODS

*Costanza, A. Peter, The Development and Evaluation of Programmed Instruction in Score Reading Skills. (p. 19/1970)

*Feinberg, Saul, A Creative Problem-Solving Approach to the Development of Perceptive Music Listening in the Secondary School Music Literature Class. (p. 12/1973)

Gipson, Richard C., A Comparison of Class and Private Instruction for Beginning Keyboard Percussionists. (p. 31/1976)

Goodman, Carol L., The Open School and Its Implication for Music Education. (p. 38/1975)

Jessup, Linda Lee, Innovative Vocal Techniques in Indeterminate Choral Music. (p. 36/1975)

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Woskowiak, Leona Frances, The Effect of Chanting Rhythm Syllables on Rhythm Reading. (p. 10/1971)

**Zockoll, Glenn A., An Experiment in Composing by Primary Children. (p. 29/1970)

VOCAL/CHORAL

**Crawford, Juanita B., The Public Performance in the Elementary School and Its Effect on Vocal Achievement. (p. 27/1970)

**Doutt, Sister M. Kathleen Cecilia, An Evaluation of Contemporary Choral Literature for Secondary Schools. (p. 23/1970)

Jessup, Linda Lee, Innovative Vocal Techniques in Indeterminate Choral Music. (p. 36/1975)

Shull, Carl N., The Development of an Annotated Guide to Music by Distingished Composers for Children's Voices. (p. 8/1971)

**Simon, Margaret K., An Investigation of the Goals of Singing Activities in the Elementary School. (p. 28/1970)

# ABSTRACT

## HEALEY WILLAN: THE INDEPENDENT ORGAN WORKS

Joylin Campbell-Yukl, Doctor of Musical Arts
University of Missouri-Kansas City, 1976

James Healey Willan, born in Balham, England 1880, moved to Canada in 1913 in response to an invitation to become head of the Department of Theory at the Conservatory of Music in Toronto. He resided in Toronto until his death in 1968. His varied compositional and academic career was woven around his work as Precentor, organist-choirmaster, at St. Mary Magdalene Anglican Church in Toronto. A colorful personality of modest disposition, he was an important figure in the early development of Canadian music.

His independent organ works, those which are not based on liturgical sources, are eighteen in number and are divided into two time periods. Early works of his youth essentially belong to the Romantic school. An interim between 1933 and 1951 was productive of music in many mediums, but not in the area of independent organ literature. Following his retirement in 1950 he again wrote organ music disassociated with church liturgical sources. These works, with one exception, are smaller in scope than those of his early years.

Analysis of the independent organ works in this paper provides a structural and thematic catalogue intended as a guide toward the understanding of these works from a performer's viewpoint.

Although Willan never formally studied composition, his style relies on counterpoint for its nucleus of musical concept. He was a lifelong devotee to plainsong which influenced his independent organ works to a degree in melodic and modal predeliction; it did not,

however, form a basis for these compositions.

His harmonic vocabulary remained in a traditional tertian Romantic idiom; he was not innovative in any twentieth century aspects. He was satisfied with remaining in a familiar framework. Composing in contrapuntal forms was particularly appealing to him and it is in this genre that he attained his greatest rhetoric.

The Romantic organ of heavy metal pipes and low wind pressures endured as his ideal in organ sound production and for this type of organ he conceived his large scale works. Consequently, performance of these works should be on a fairly comprehensive modern instrument.

Virtuostic demands are made of the organist's technique in rapid passage work and legato chords of multiple voices. Speed and rapidity of stop changes are necessary coupled with the ability to wield control of the mechanical aspects in organ console design. Compositions of smaller scope are practical for organists of modest abilities.

# ABSTRACT

# AN EVALUATION OF G. F. HANDEL'S USE OF THE OBOE IN HIS ARIAS: A CATALOGUE, BY INSTRUMENT, OF HANDEL'S ARIAS WITH INSTRUMENTS: AND A PERFORMING EDITION ACCOMPANIED BY A PERFORMANCE TAPE OF A HANDEL ARIA WITH OBOE SOLO

Sara A. Funkhouser, Master of Music
University of Missouri-Kansas City, 1976

This paper evolved as the result of the desire of the writer to know more about Handel's use of the oboe with solo voice. No catalogue of his arias was available, so the first requisite was to research the arias with oboe. Feeling that the same need existed for all of the instruments, a complete instrumental catalogue was made. The purpose of this catalogue, therefore, is to make the arias of Handel more accessible to the performer and to discuss Handel's use of the oboe in his arias. The arias are catalogued by instrument so that, for example, a flutist, by turning to the flute category, can immediately see what arias use flute; what other instruments, if any, are used in each aria; what the voice designation is for each aria; and the tempo, time signature and tonality of each aria.

With the aid of the catalogue it was possible to make an evaluation of Handel's use of the oboe. Included in this volume is information concerning the percentage of arias for each of the wind instruments and the prevalence of tempos, time signatures, tonalities, and voice designations for each wind instrument. A discussion of Handel's writing for the Baroque oboe and a chronological analysis of Handel's use of the oboe is also included. The oboe is usually discussed in terms of the following four categories: oboe solo; oboe I, II;

unison oboes; and oboes and violins in unison, as it appears that Handel treats the oboe in a different manner in each of these categories. Using the information from the catalogue, in addition to an analysis of these works, a summary has been made of his use of the oboe in these four categories.

Included is a survey of Handel's use of articulation marks in the arias using winds, with a table to make these findings more accessible. There is also discussion of the difference of approach to articulation between the modern and Baroque oboes. The reader will find a section on Handel's idiomatic figuration for the oboe as contrasted with the strings and the remainder of the winds.

In the hope of illustrating some of the findings of the text, in effect acting as a summary of the text with additional commentary on ornamentation, a performance edition and discussion of one of the arias has been prepared. This is accompanied by a tape recording of the edition performed on both modern and Baroque oboes.

As a result of this research, it appears that the oboe is Handel's preferred wind instrument with arias. It is by far the one most frequently used, appearing in 30 percent of the arias. (The flute and recorder, next highest in percentage of use, appear in only 3 percent.) Handel seems to find the oboe capable of a variety of moods.

# ABSTRACT

## DON AGOSTINO SCOZZESE'S IL PRIMO LIBRO DI MADRIGALI A 5 VOCI

William J. Gillis, Master of Music
University of Missouri-Kansas City, 1976

This transcription is the first known modern score edition of Don Agostino Scozzese's Il Primo Libro di Madrigali a 5 Voci. It provides a source of music to students and scholars from which they are able to perform and study. Furthermore, this is the first known modern edition of any of Scozzese's music.

The only known compositions of Scozzese are Il Primo Libro di Canzoni alla Napolitana a 3 a 4 e 5 Voci, published by Angelo Gardano in Venice in 1579, and Il Primo Libro di Madrigali a 5 Voci, published by Giacomo Vincenzi and Ricciardo Amadino in Venice in 1584. The only primary sources of biographical information on the composer are the title pages and dedications of the two collections. From these sources it is known that Scozzese was from Leccio, but it is uncertain whether this refers to Lecco in Lombardy or Lecce near Naples. There is no mention of either his birth date or his occupation.

The only secondary sources of information on Scozzese are Robert Eitner, Biographisch-Bibliographisches Quellen-Lexicon der Musiker und Musikgelehrten and Emil Vogel, Bibliothek der Gedruckten Weltlichen Vokalmusik Italiens. Eitner lists the two publications of the composer and draws his biographical information from the title pages and dedications of the prints while Vogel merely lists the known works.

## ABSTRACT

# GOLDEN MEAN PROPORTION IN NINE OF THE FIRST MOVEMENTS OF THE BEETHOVEN PIANO-VIOLIN SONATAS

Beth L. Hurlburt, Master of Music
University of Missouri-Kansas City, 1977

In this thesis, nine of the first movements of the Beethoven piano-violin sonatas are examined in terms of the golden mean proportion. The golden mean is a proportion which has been found in great works of art throughout the history of western civilization. The golden mean proportion may be illustrated by the following algebraic exercise. If a unit segment is divided in such a way that the greater part is the mean proportional of the smaller part and the whole segment, all of the parts are said to be in golden mean proportion to each other. At first, the golden mean of the entire length of each sonata movement is found. Once the point of golden section of the entire length is found, another section is struck from that point of golden section to the end of the movement. Several calculations are made in this way for each movement. There is, in most cases, a great coincidence of these points of golden section with the major sonata-allegro structural points. The occurrence of these structural points in golden mean proportions may explain their traditional importance and the sense of balance they impart to the structure.

The augmented chords, augmented sixth chords, and the Neopolitan sixth chords found in these sonata movements also exhibit the golden mean in their proportions. In some cases, the occurrences of key relationships of a third to the tonic key and the relationships of the parallel major/minor keys are in golden mean proportions.

The importance that has been placed on these particular chords and these particular key relationships throughout history may be due in part to the golden mean proportions they display.

# ABSTRACT

# EFFECT OF A SYSTEMATIC INSTRUCTIONAL MODEL ON MUSICAL CONCEPT DEVELOPMENT BY FOUR-YEAR-OLD CHILDREN

June Thomsen Jetter, Ph.D.
Faculty, University of Missouri-Kansas City

The problem of this study was to obtain evidence of the ability of young children to develop musical concepts when instruction is controlled by a systematic concept development model. The model, adapted from general concept development designs and designated the Aural-Visual Identification Instruction (AVII) model, had been tested for effectiveness with second grade children in a previous study (Jetter, 1975). The model is derived from behavioral theory and applies linear programming to group instruction.

The method of the study was to use materials prepared according to the specifications of the model to teach five musical identifications to four groups of four-year-olds in federally-funded and privately-funded preschool programs. Source of funding identified programs representative of different socio-economic backgrounds.

A quasi-experimental posttest-only equivalent-materials research design was used for the investigation. Independent variables were: School Type, Sex, Age (in months), Number of Practice Items, Amount of Time Lapse (between instruction and testing on a single concept task), and Testing Format (group-administered test or individually-administered test). The sample consisted of 63 children in four preschool centers in the Kansas City area. Three programs were general programs with varied activities and one was a Montessori

program. The children were instructed over a period of six months and then tested on all identifications.

68-72% of the children scored four or more on trombone identification, clarinet identification, and exact repetition identification ($p < .01$). 54% scored four or more on the 6-item subtest for cello identification. Only one center (N=9) received instruction on half-step interval identification.

A stepwise regression analysis showed that Age at the beginning of instruction (in months) accounted for 35% of achievement for trombone identification with Number of Practice Items accounting for an additional 6%. Number of Practice Items accounted for 80% of achievement for exact repetition identification. Age did not add a significant amount in the explanation of achievement on exact repetition identification tasks. Analysis of variance of the data showed no significant difference in achievement for children in federally-funded or privately-funded centers, for boys or girls, or for age of children (above 48 months) when instruction was initiated. There was no significant correlation between scores of children tested in a group and the scores of the same children tested individually. This finding suggests that the relationship between instructional format and testing format needs to be investigated further. The effect of Number of Practice Items and Time Lapse (between instruction and testing) were related to type of musical task.

The study provided evidence that four-year-old children can develop concepts of trombone timbre, clarinet timbre, exact melodic repetition, and half-step interval when effective instruction is provided. Age of child (over 48 months), socio-economic background, and sex were not significant factors in achievement when the AVII model materials were used for instruction. Amount of Practice with the concept stimulus and Amount of Time Lapse between instruction and testing appear to be related to the achievement of specific musical concept development tasks.

## ABSTRACT

# A BIOGRAPHY OF NICCOLO PICCINNI AND A CRITICAL STUDY OF HIS LA DIDONE AND DIDON

Margaret McGinness Liggett, Ph.D.
Washington University, 1977

The purpose of this dissertation is to gather and consolidate biographical data on the life of Niccolo Piccinni and to compare the Italian and French versions of his two operas based on Virgil's story of Dido and Aeneas. Since no modern biography exists, the author has relied on eighteenth-century accounts of his life. In addition to the voluminous secondary source material the following primary sources are discussed: four unpublished letters from Piccinni; a copy of his contract with the Paris Opera; and a copy of his preface for an Italian translation of Fux's Gradus ad Parnassum.

This study shows that Piccinni was viewed by his contemporaries as one of the most important composers of the late eighteenth century, immensely popular not only in Italy but throughout Europe as well. He lived during a time when Italian *opera seria* enjoyed some measure of vitality but little innovation, while French *tragedie lyrique* was stagnate as a result of convention and tradition. The French Encyclopedists, through their exposure to Italian opera, adovcated the reform of French serious opera by the introduction of Italian styles, particularly the ingratiating melodic style of the *opera buffa*. Piccinni was invited to Paris to implement their reforms. His chief librettist, Marmontel, a member of the Encyclopedist group, attempted to assure the accomplishment of these reforms by writing French libretti suitable to Piccinni's Italian melodic style.

*La Didone*, Piccinni's first opera based on the tragedy of Dido, was written for Italian audiences in

1769. Didon, based on a French libretto by Marmontel, was written in 1783 and had its Paris p-emiere at the Opera.

A study of the manuscripts of La Didone and Didon reveals that the elements of Italian opera desired for the reform of tragedie lyrique are already present in La Didone. These characteristics were retained in Didon. Both operas are now obscure, largely because they were written specifically to meet the artistic demands of a fickle audience. A study of these operas, however, illuminates an important era in the history of French and Italian opera.

# ABSTRACT

# MUSICAL TIME AND TIME SIGNATURES AND THEIR RELATION TO HOROLOGICAL DEVELOPMENTS IN THE SEVENTEENTH CENTURY

Ellen TeSelle-Boal, M.A.
Washington University, 1977

A study of late seventeenth-century time signature in relation to theories expressed by contemporary write Special attention is given to references to time-keepin devices as indicators of tempo. Included are a history of horological developments, a study of late seventeent century clocks, and an analysis of the time signatures and tempos of representative compositions of the period

Procedures included a study of the extant musical treatises of the seventeenth and early eighteenth centuries, and musical compositions of the late seventeent century, including an autograph manuscript by Henry Purcell in the British Library; research into the history of horology and examination of historical timepieces in European museums; analysis and performance of music of the period.

## ABSTRACT

# STROMENTI DA TIRARSI IN THE CANTATAS OF J. S. BACH

Darrell Urban, Ed.D.
Washington University, 1976

The objective of this study is to evaluate widely scattered evidence pertaining to Johann Sebastian Bach's use of the enigmatic *Tromba da tirarsi* (slide trumpet) and *Corno da tirarsi* (slide horn).

Musicologists have long been perplexed by Bach's apparent usage of these instruments. Their very existence has been doubted by many writers of the history of musical instruments. Foremost among these have been Adam Carse and Francis W. Galpin. Authorities advocating the existence of these instruments include Charles Sanford Terry, and Curt Sachs. Only Terry and Sachs have treated the *tirarsi* question at length, and both have indicated the need for further research.

Reluctance to confront the problem stems from its vast scope and the paucity of evidence. The tenuous history of the slide trumpet dates from the early Renaissance through the Baroque periods, and yet little evidence of its existence remains. Had not Bach, or his copyists, specified the use of these instruments in his cantatas, the problem of the *tirarsi* instruments might have been overlooked.

A thorough investigation of this problem must include not only the history of brass instruments in the Renaissance and Baroque periods, but also iconography, acoustics, and trends in composition and orchestration. To assemble a concise body of facts from which further research can proceed, the following procedures are: In Volume I, the historical basis of the slide trumpet and horn is discussed and the opinions of major writers are presented. The second part of Volume I deals with

the question of the practical use of these instruments, i.e., their ability to perform the parts that Bach assigned to them. The approach to this question consists of a statistical analysis of the fourteen movements known to be assigned to the *tirarsi* instruments by Bach, and a statistical determination of the feasibility and facility of the instruments in the performance of these parts.

The final part of Volume I consists of an evaluative analysis of the cantata parts assigned to the *tirar* instruments. This section also includes analysis of cantata parts not specifically assigned to the slide instruments, but which contain passages which lie outside the capabilities of natural brass instruments of the period, and have therefore been attributed to the *tirarsi* instruments by Terry and others.

Volume II treats three specific problems concerning the *Corno da tirarsi*: 1. The singularity of the term *Corno da tirarsi* in the works of J. S. Bach. 2. Paucity of information regarding the horn in the period 1600-1750. 3. Bach's peculiar horn nomenclature. Bach specified the use of the horn by a variety of names, i.e., *Corno*, *Cor de chasse*, *Corno da caccia*, *Corno par force*, *Lituus*, and *Corno da tirarsi*. This nomenclature leads to the assumption that different names meant different horns and that Bach had specific reasons for their use. However, no writer has yet clarified Bach's nomenclature. A better understanding of the nomenclature will perhaps add to the knowledge of the *Corno da tirarsi*.

In the final section of Volume II, findings concerning Bach's nomenclature, resulting from a study of the original manuscript photocopies, are discussed; creating possibilities for further research.

# ABSTRACT

# A PROGRAM FOR TEACHING MUSICIANSHIP IN THE FIRST YEAR OF CLASS STRING INSTRUCTION

Charles Lester Wentworth, Ed.D.
Washington University, 1978

This dissertation consists of teacher and student materials for the first year of class string instruction. The emphasis of this program is twofold: 1) student formation of concepts in six basic dimensions of music: a) Pitch. b) Rhythm, c) Dynamics, d) Timbre, e) Form, f) Style; and 2) development of traditional performance skills.

An ecclectic philosophy of music education was developed, based on current educational and music educational thought. From this philosophy criteria were developed to evaluate existing class string methods. No existing methods were found which adequately met these criteria in terms of developing conceptualization by the student.

Fifty-one teaching strategies and nine evaluative strategies were formulated with an emphasis on developing conceptualization. The students were presented with basic skills of string instrument playing and information about music which were then used to help the student form concepts about pitch, rhythm, timbre, dynamics, form, and style which may be applied to all music. The students performed, analyzed, and composed for the purpose of arriving at and making use of musical concepts concomitantly with improvement of performance skills.

In order to ascertain that conceptualization was taking place, an identical aural pre-post test was developed and administered to the author's beginning fifth grade string students. The pre-post tests were tape recorded and required the students to make conceptual judgements about musical examples based on the dimensions of

music. There was an average gain of fifteen correct answers (27%) from the pretest to the posttest. It should be emphasized that the pre-post test was designed only to measure conceptualization. No measure was made of performance ability or knowledge. The intent of the pre-post test is simply to present evidence that this method does produce positive results in the student's ability to conceptualize about the dimensions of music.

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Volume IV 1978 Number 2

I. A Curriculum for Teaching Musicianship to Secondary School Students: Composing, Listening, Analyzing and Performing
Lewis B. Hilton, Washington University . . . . . . . . . . . . . 9

II. Retention of Songs, Stories, and Poems by Retarded Children
Wanda Lathom, University of Missouri-Kansas City . . . . . . . . 27

III. The Relationships of Selected Academic, Musical, and Background Factors to Grades Obtained in Undergraduate Music Theory and Ear Training Courses
Sandra J. Emig, William Jewell College, Liberty, Missouri . . . . . 43

IV. American Tune Book Compilations Using Shaped-Note Systems, 1801-1860, A Forerunner of American Music Education
David Lamar Oakley, University of Missouri-Rolla . . . . . . . . . 51

V. Selected Abstracts in Music Education . . . . . . . . . . . . . . 104

A. Samuel Coleridge-Taylor: An Analysis of Selected Piano Works and an Examination of His Influence on Black American Musicians: A Source Book for Teachers
John C. Batchman, Washington University . . . . . . . . . . . 104

NORMA [illegible] TYPIST

B. Perspectives for Developing Principles and Guidelines in the Construction of the General Music Curriculum for American Elementary Schools: An Eclectic Approach
Rene Boyer, Washington University . . . . . . . . . . . . . 105

C. Music in Chaucer: *Troilus* and the Dream Poems
Linda C. Ferguson, University of Missouri-Kansas City . . . . . . . 107

D. The Effects of Different Familiar and Unfamiliar Musical Timbres on Musical Melodic Dictation
Donald Lewis Gephardt, Washington University . . . . . . . 109

E. An Evaluation of Massed and Distributed Practice for the Teaching of Melodic Repetition Administered by Classroom Teachers and a Music Specialist
Kristin K. Gerth, University of Missouri-Kansas City . . . . . . . 111

F. Discussion and Transcription of the Thirteenth-century Middle English Religious Monoday, Worldes Blis
Daniel William Goodnell, Washington University . . . . . . . 113

G. Cadential Embellishments in German Keyboard Music of the Sixteenth, Seventeenth, and Eighteenth Centuries
Maureen A. Jais-Mick, University of Missouri-Kansas City . . . . . . 114

H. An Experimental Study of the Relationship Between Musical Note-Reading and Language Reading
Daniel Lew Roberts, University of Missouri-Kansas City . . . . . . 117

I. A Comparative Study of Group Instruction and Self-Instruction Using Two Musical Tasks: Oboe Timbre Identification and Melodic Sequence Identification
Jimmy Kay Trenkle, University of Missouri-Kansas City . . . . . . . 119

J. Modality, Tonality and Musica Ficta in Sixteenth-century Chanson
Rhian Samuel Curtis, Washington University . . . . . . . . 120

K. Music as Reinforcement in Increasing Spontaneous Speech Among Autistic Children
Darlene Watson, University of Missouri-Kansas City . . . . . . . 121

# MISSOURI JOURNAL OF RESEARCH IN MUSIC EDUCATION

Editor: Jack R. Stephenson
Conservatory of Music
University of Missouri-Kansas City
Kansas City, Missouri 64111
Telephone: 816 276-2731

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3. Articles should be typewritten with double spacing throughout including footnotes, long quotations and itemized lists.
4. Footnotes should be placed consecutively at the end of the article beginning on a new page using double spacing between notes. Authors reporting quantitative studies may substitute a list of references for footnotes in accordance with practice followed in many scientific journals.
5. Manuscript style should follow recommendations made in the MLA Style Sheet. The Chicago Manual of Style should be followed in setting

up tables, charts and figures, which should be numbered and placed on separate pages.

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# PREFACE

The Missouri Journal of Research in Music Education, published by the Missouri Music Educators Association, is devoted to the needs and interests of teachers of music in Missouri and the nation. This issue, Volume IV, Number 2, is the seventeenth to appear in as many years.

The members of the Editorial Committee are grateful to those readers who have written suggestions concerning the content of past issues and request that criticisms and suggestions again be sent to the Editor concerning the content of this issue. We strive for a reasonable balance among music theory, history, philosophy, aesthetics, and pedagogy.

We express our deep gratitude to the Missouri Music Educators Association for their financial support to make it possible to continue to publish the Missouri Journal of Research in Music Education.

The Editorial Board

# A CURRICULUM FOR TEACHING MUSICIANSHIP TO SECONDARY SCHOOL STUDENTS: COMPOSING, LISTENING, ANALYZING AND PERFORMING

Lewis B. Hilton
Washington University, St. Louis, Missouri
U.S.A.

*This paper was presented at the International Society for Music Education in London, Ontario, August 1978*

For the past 26 years I have supervised and taught a class in musicianship to students ranging in age from 10 years to 18 or 19 on Saturday mornings from 10-12 a.m. at Washington University, St. Louis, Missouri. No tuition is charged but the students must pay for their own materials. They are recruited each fall by the simple expedient of sending a letter of explanation (see attached) with enrollment forms (see attached) to secondary school music teachers in the St. Louis Metropolitan Area. We average around 100 students each year. I have four assistants (graduate students in music education). We break the class into four or five sections on the basis of a very simple pretest on the traditional rudiments of music. After the first session or two we generally regroup for one reason or another. Our test is far from perfect nor do we need it to be, because of the nature of our curriculum. It is almost impossible to predict motivation,

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*Dr. Lewis B. Hilton founded the Missouri Journal of Research in Music Education in 1961 and was its editor for fifteen years. He will be on terminal leave for 1979-1980 after which time he will be retiring from his position as Chairman of Music Education at Washington University, St. Louis. Dr. Hilton has served his university and the state of Missouri since 1951. He has contributed greatly to the stature of music education in our state and in our nation.*

*--editor JRS*

creativity, work habits, attributes which are actually more significant than, say, a knowledge of major and minor key signatures. I have taught the methodology of this class in workshops at several universities and to orientation workshops in public schools as well as building it into curricula of some school systems where I have served as curriculum consultant, and of course, my own university students are exposed to it. So while I do not make any claim for having measured statistically or have used any truly experimental method for testing its efficacy, I do have a great deal of experiential evidence of its success. But I should not try to generalize to any population whatever success I believe my students and I have had in employing this curriculum.

I am going to present a few sample projects in very simple language. Note that several more are listed in the addenda but not discussed here. It will be perfectly evident that while unique in some respects, it is highly eclectic in others (see Bibliography).

I. Aims and goals (highly abbreviated)

  A. Open the students' ears to all kinds of music (e.g., see Schafer's Ear Cleaning in the bibliography).

  B. Encourage lasting musical behavioral changes, i.e., make some kind of music a central and active part of the students' lives.

  C. Encourage creativity.

  D. Develop cognitive, affective and motor skills.

  E. Develop ability to make value judgments and discuss them in musical terms N.B. these value judgements are not imposed on the students (or at least we try to avoid this).

II. Materials and equipment needed (minimum for all projects)

  A. Four or five rooms, one of which should be large enough to accommodate the entire class.

B. At least one tape recorder and record player in each of these rooms. One or two should be portable.

C. Splicing equipment if possible.

D. Three to four additional smaller rooms for small group and individual improvisation, rehearsal and discussion.

E. Recordings, blank tape.

F. Any number of noise makers such as rulers.

G. Blackboard.

H. Whatever instruments the students may play (they furnish their own).

I. Staff paper and pencils.

J. Workbooks or textbooks. We presently use Clough and Murphy / Melcher for helping to teach rudiments and traditional analysis (see Bibliography).

K. Grand pianos in each of the main classrooms if possible. The amount of physical space needed and the quantity of such devices as tape recorders obviously are adaptable to each particular situation.

III. Procedures for all projects: (This is by no means a step by step account, but a selected sampling from the easiest to a rather advanced project. Some of the material may be omitted entirely or reviewed briefly depending on the sophistication of any of the several groups of students. A teacher may often adapt the procedures to suit his own preferences or what he perceives to be motivating factors or the lack thereof on the part of his class.)

N.B. I am presenting the first class meeting in some detail. The other projects have been selected as samples from the simplest to the more complex. Some may require two or three class sessions.

## PROJECT I. Orientation

*Equipment needed:* Tape recorder, a prepared tape, selected recordings, paper and pencil.

*Procedure:*

A. Meet together as a group. Administer a brief pretest (15 minutes--key signatures, rhythmic and melodic dictation including 3 clefs, listening to brief excerpts of recordings or tapes, ranging from bluegrass, rock and jazz to perhaps Brahms, Stravinsky and Stockhausen. Ask the students to indicate their own preferences of music performed and to write a very brief synopsis of their musical backgrounds, although we already know some of this from their entrance forms. (See a sample of entrance form on page 24.)

B. I preside over this session explaining what we want to accomplish; the emphasis will be on creativity (it does not matter whether they even know the names of the notes); we will all soon be composing and learning at each one's level; we do not care what music they like now but we will be listening to and writing a great variety of musics and, for those who need it, learning rudiments of notation and other fundamentals.

1. We will now listen to an excerpt of a tape, in this case Polarities, published by Roger Dean Co. and composed by me. A class discussion follows concerning the music they heard.
2. Introduce the dimensions of music upon which all aspects of this class will be based (see Addenda).

Sound - Silence

Pitch Loudness Timbre Duration

Simultaneity Texture Form

Style

3. Play the same tape again. Then discuss it in terms of the dimensions of music.

C. This procedure will have taken about one hour. By this time my assistants will have quickly examined the pretest papers and made temporary section assignments. These assignments are announced making it clear that they are temporary and can be changed by student-teacher agreement within the next few weeks. Students are given their room and teacher assignments and asked to bring their instruments (if they play any) to all subsequent class meetings.

D. The concert. The last 20 minutes or so of this class, as with other classes every two or three weeks, are devoted to a live concert provided, in my case, by one of my own faculty members, some other faculty member from the University, or graduate students. Our first concert is usually a jazz concert (perhaps just piano and bass). The students are asked to listen to it employing the dimensions of music in interpreting for themselves the manipulation of these dimensions employed by the composers represented (as will be the case in all other concerts).

N.B. If the live concerts are not always practical, tapes or recordings can be substituted, although they are not as satisfactory.

From now on, I will not be nearly so precise in my instructions, since space does not permit it and it is probably best for you to adapt the materials to suit your own situations. I shall, however, present a few specific strategies, which you may or may not want to use, depending on the makeup of your class. Please remember that, although this is all creatively oriented and built around the dimensions of music, traditional rudiments are not neglected, nor is some history of music. Insofar as rudiments are concerned, we rely heavily on individualized instruction as provided in such a programmed text as Clough (see Bibliography), although we attempt to introduce most of the material in class and review it in class, using sound. Some students need much of this, some none at all. We also have in our music library such taped or recorded ear training programs as Horacek, Knight, Carlsen, and the Rutgers theory records. I attempt to influence school music teachers to have one of these sets available, usually the Rutgers, not because it is the best, but because it is the cheapest.

Let us now turn to some of the materials to be covered at four levels of sophistication in each of the classes in succeeding weeks. Remember that every two or three weeks the entire group comes together for a live concert. At least two of these concerts are made up of pieces composed and performed by the students themselves. These concerts are taped for later discussions as are the mini-concerts presented in each of the sections during the regular class sessions.

At first we will be concerned with the basic dimensions or concepts of sound and silence. One sample strategy will have to suffice.

PROJECT II. An elementary exercise in sound, silence and improvising notational systems.

*Equipment needed:* Rulers, tape recorder, surface (desk or floor) on which to hit rulers, metronome, paper and pencil.

*Principal dimensions of music manipulated:* Sound, silence, texture, loudness and softness (dynamics), and form.

*Procedure:* Set the metronome at 60. Select a student conductor and provide rulers for the "ruler orchestra." The conductor and all the members of the class practice beating in four using this pattern.

Start the metronome and the tape recorder and continue beating in four in time with the metronome. When it appears that the entire class feels comfortable with the pattern, stop the conducting. Stop the metronome and inform the performers and the conductor as to the pattern of adding and subtracting ruler-players for increasing/decreasing the loudness and changes in texture. The student conductor then recommences his $\frac{4}{4}$ beat. The instructor must aid the student conductor at the crucial points for adding and subtracting rulers as well as instructions for dynamic changes.

After eight beats, the conductor makes a signal with his left hand to indicate that five ruler-players are to start hitting their rulers very softly exactly in time with the conductor, i.e., one ruler beat of the conductor.

After eight soft beats of the rulers, the conductor signals with his left hand that the ruler-players should gradually increase their volume of sound. He does this by slowly lifting his left hand, palm up, for eight beats.

The conductor then signals five more ruler players to start playing at the same duration (tempo or rhythm) and loudness as the first five players. After four more beats, he again slowly raises his left hand (palm up) to signal all ten players to increase, gradually, their loudness.

After eight beats of the crescendo the conductor indicates with his left hand that all players should cease playing after the eighth beat.

The conductor continues the beat with his right hand for eight beats. On the ninth beat he signals all ten players to start playing loudly. They play at this level of loudness for four beats, then the conductor indicates with his left hand for silence (cut off). After eight beats of silence he cues all players to reenter playing loudly for one measure. Then he indicates eight beats of decrescendo.

The decrescendo lasts for eight beats.

The conductor then signals the second five ruler players to cease playing. The first five continue for eight beats in a gradual decrescendo.

On the ninth beat, the conductor signals the five players to continue very softly for eight more beats. He then signals that all playing should cease.

He continues his own beat for eight beats of silence and then stops. Stop the tape recorder.

Reverse the tape recorder and then listen to the playback of this composition.

All members of the class now make up a score of the piece with rulers using nontraditional signs or notation in such a manner that a person unschooled in music reading could perform as a member of the ruler ensemble without any prior knowledge of notation. Write down your version of the score with paper and pencil. Improvise your own score (symbols).

After everyone in the room has written his own version of the score, pass them around and discuss them. Which ones represent most simply and accurately the sounds and silences of the composition? Why? Are all of the dimensions of music employed in this piece represented graphically and clearly in the score? Or is that possible.

Discuss each dimension of the piece and how each was manipulated. Can you write and direct the ten ruler performers in a completely different piece? Try it.

Notice that at the point where five rulers were added that there was a sudden increase in loudness. As you probably know, the traditional way for representing crescendo is < and decrescendo >. There is no way to represent a sudden increase in loudness except by using the letter F or SFZ (forte or sforzando--sforzando refers to only one note, however, while F means loud or forte). The whole idea of representing dynamics in a score is relatively recent in the Western music notational system, although in practice or performance it probably always has been present in all musics. There are, then, two kinds of increase or decrease in loudness: sudden or gradual. Sudden changes were typical of Baroque (1600-1750) music. They are called terrace(d) dynamics. An orchestra at the court of Manheim Germany in the latter part of the eighteenth century specialized in the crescendo and decrescendo and it became a mark of that orchestra's versatility. We could write a simple score using non-traditional symbols such as ____‾‾‾‾____ to represent terrace(d) dynamics, or we could do it traditionally in this manner P F P.

*Assignment:* Compose a similar piece using some similar notation to be performed next week.

PROJECT III. The pentatonic scale and canons.

*Equipment needed:* Trumpet, grand piano, blackboard, students' instruments.

*Principal dimensions to be manipulated:* Pitch, duration, simultaneity, form and style.

N.B. During all of this time, rudiments are being studied as needed and composition is proceeding in small groups, using either traditional or, at first, notation invented by class members. Remember, too, that these are sample strategies. For every one I mention, 10 more may be used.

*Procedure:*

A. Scales are theoretical arrangements of pitches after the fact, i.e., they follow melodies; they do not precede them.

B. Discuss overtone series and demonstrate on a trumpet and with sympathetic vibrations on the piano.

C. Discuss tunings of various cultures.

D. Introduce a folk song employing a pentatonic scale--one of infinite possibilities of pitch arrangements.

E. Use the black keys of the piano at first to introduce the sound of the so-called universal pentatonic scale, discussing whole and half steps as well as cents (100 per semitone).

F. Compose (play, sing, and/or write) brief pentatonic melodies.

G. Teach transposition of pentatonic scales and then the melodies already composed.

H. Add a drone bass (bourdon).

I. Experiment with rhythmic and timbre variants (by now this should be done in traditional notation).

J. Add an additional section to the melodies.

K. Repeat the first section--Form AB, then ABA.

L. Record and play the tapes of the recorded pieces of the students and discuss them in terms of the dimensions of music. How could they be made more interesting? What creates more interest? Why the differences in opinions?

M. Introduce the concept of a canon.

N. Compose a pentatonic canon together (may be simple imitation or it may employ inversions).

*Assignment:* Compose a brief pentatonic piece for whatever instruments (or voices) are available. Be sure the transpositions and ranges are correct. (Give them a handout for this if necessary.) It may be in two or more parts and may be polyphonic (canonic) or homophonic.

## PROJECT IV. Modes and their transposition.

*Equipment needed:* Blackboard, staff paper and pencil, Liber Usualis, opaque projector, recording of Gregorian or Ambrosian chant, excerpt of recording of Mass l'homme armé of Dufay, recording of Ravel String Quartet, score of Variations on a Corsican Theme by Tomasi (woodwind quintet).

*Principal dimensions of music involved:* Sound vs. silence, pitch, duration, simultaneity, form, style.

Provide a chart of Dorian, Hypodorian, Phrygian, Hypophrygian, Lydian, Hypolydian, Mixolydian and Hypomixolydian modes.

*Procedures:*

A. Play a brief recording of modal, rennaissance polyphony (l'Homme Armé). Discuss the mode, the durations, the dynamics, the form, the timbres.

B. Play a brief recording of a section of Tomasi, Ravel, etc. What is a transposed mode? How do you do it? Formula example Mixolydian on F.G:C as F:X = $B^b$:F Mixolydian, then contains $B^b$ and $E^b$.

C. Play or sing a familiar tune in major.

D. Change to Mixolydian with the same tonal center.

E. Perform it and discuss it principally in terms of the pitch dimension.

F. Transpose it to any other tonal (modal) center using the same formula (not interval by interval).

G. Perform as many pieces as possible and record them.

*Assignment:* Using your knowledge of the principles of canonic writing, compose a two-part canon employing inversion or retrograde in a transposed mode. Have the parts copied and ready for performance. Be able to discuss your piece in terms of the dimensions of music.

Proceed with Clough as necessary. Do not forget the ear training tapes or records.

PROJECT V. Serial music.

*Equipment needed:* Staff paper, ordinary paper, pencil, recordings of first few measures of Schönberg's Pierrot Lunaire and Wind Quintet, recording of first few measures of Wallingford Riegger's Concerto for Piano and Wind Quintet, handout of a matrix.

*Principal dimensions of music manipulated:* All.

*Procedure:*

A. Discuss the breakdown of tonality through the extreme chromaticism of the late nineteenth and twentieth centuries. (You may want to play a bit of Strauss or early Schönberg.)

B. Discuss free tonality. Play a recording of a section of Schönberg's Pierrot Lunaire.

*C. Write the row from Schönberg's Woodwind Quintet on the blackboard. Review the concepts of O, R, RI, and I.

D. Play a brief section of the first movement of the quintet and discuss.

E. Hand out a prepared 12x12 matrix and discuss, dwelling on the importance of divisibility into parts. Play a recording of a one-line piece composed by you based on the matrix.

F. Compose a one-line piece (perhaps a cadenza) together based on the matrix. Perform and tape it.

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*O = Original, R = Retrograde, RI = Retrograde Inversion, I = Inversion.

Sample 12x12 matrix

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | C | E | D | C# | F | E$^b$ | B | G | A | B$^b$ | F# | G# |
| 1 | A$^b$ | C | B$^b$ | A | C# | B | G | E$^b$ | F | F# | D | E |
| 2 | B$^b$ | D | C | B | E$^b$ | C# | A | F | G | G# | E | F# |
| 3 | B | E$^b$ | C# | C | E | D | B$^b$ | F# | G# | A | F | G |
| 4 | G | B | A | G# | C | B$^b$ | F# | D | E | F | C# | D |
| 5 | A | C# | B | B$^b$ | D | C | G# | E | F# | G | E$^b$ | F |
| 6 | C# | F | E$^b$ | D | F# | E | C | A$^b$ | B$^b$ | B | G | A |
| 7 | F | A | G | F# | B$^b$ | G# | E | C | D | E$^b$ | B | C# |
| 8 | E$^b$ | G | F | E | G# | G# | D | B$^b$ | C | C# | A | B |
| 9 | D | F# | E | E$^b$ | G | F | C# | A | B | C | G# | B$^b$ |
| 10 | F# | B$^b$ | G# | G | B | A | F | C# | E$^b$ | E | C | D |
| 11 | E | G# | F# | F | A | G | E$^b$ | B | C# | D | B$^b$ | C |

G. *Assignment*: Design your own matrix. We will then proceed to composition using your own matrix.

## ADDENDA

### Discography

String Quartet (Ravel)
Gregorian and Ambrosian chant
Variations on a Corsican Theme (Tomasi)
l'Homme arme (Dufay)
Pierrot Lunaire (Schönberg)
Woodwind Quintet (Schönberg)

Abbreviated list of strategies arranged progressively. Asterisk indicates ones described in this paper. Each strategy may need several class periods for its completion.

*1. Organizing sound and silence.
Notational systems: Original and traditional.

2. Scales, intervals and triads: Spelling, listening and writing.

*3. The pentatonic scale and melodies. Polyphonic listening and writing.

*4. The modes and their transpositions: Listening, analyzing, composing.

5. Whole tone, artificial and original scales and polytonality.

6. Introduction to Hindemith's Craft of Musical Composition.

*7. Serial compositions.

8. Other twentieth century compositional techniques.

9. Rag, jazz and rock harmonies and rhythms.

10. Introduction to the acoustical principles of musical instruments.

11. Developing your own compositional technique.

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### Hierarchy of the Dimensions of Music

Sound - Silence

Pitch Loudness Timbre Duration

Simultaneity Texture Form

Style

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## Sample Letter for Recruitment

September 13, 1977

Dear Colleague:

We plan again this year to offer instruction in theory and musicianship in the Saturday Musicianship Classes at Washington University. Highly motivated students aged twelve to eighteen are eligible. There will be two or three sections of theory, from beginning to advanced levels. Students who are interested in applying should indicate on the form whether or not they have been in a theory class before.

As usual, the theory classes will cover at the appropriate level of sophistication, ear training, sight singing, directed listening, general musicianship, analysis, and considerable composition.

All applications must be received by September 30. The first classes will be at 10:00 A.M. on October 8 in Tietjens Music Studio, 6500 Forsyth. There is no fee for any of the classes but there will be a nominal charge for materials which may run between $8.00 and $10.00 for the year.

If you have any questions would you please call me at 863-0100, station 4585. Thank you for your cooperation and interest.

Very sincerely,

Lewis B. Hilton
Professor of Music

enclosure

LBH/md

# APPLICATION FORM
# SATURDAY MORNING MUSICIANSHIP CLASS
# WASHINGTON UNIVERSITY

NAME ______________________________ AGE __________

STREET ______________________________________

CITY ____________________ STATE ______________ ZIP CODE ______

HOME TELEPHONE ____________________

SCHOOL ATTENDING ______________________ GRADE ________

HAVE YOU BEEN IN THIS CLASS BEFORE? ____________________

PERFORMING MEDIUM (Voice, Trumpet, Piano, etc.) ______________

HOW LONG HAVE YOU STUDIED YOUR INSTRUMENT (or voice)? __________

IN WHAT PERFORMING GROUPS HAVE YOU HAD EXPERIENCE? __________

______________________________________________________

______________________________________________________

RECOMMENDED BY ______________________________________
(signature of High School Music Teacher)

APPROVED BY ______________________________________
(signature of Parent or Guardian)

I understand that there is no charge for this course but that I will furnish my own materials (books, paper, etc., costing approximately $8.00 a year). I promise to attend all sessions of the Saturday Class (10:00-12:00) unless excused for sufficient reason to be given 48 hours in advance whenever possible. (If you have three unexcused absences in a row you will be automatically dropped from the musicianship class). I will complete all assignments during the year to the best of my ability.

______________________________
signature of applicant

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Please detach and mail the above form to Department of Music, Box 1032
Washington University
St. Louis, Missouri 63130

The first class will be October 8, 1977 at 10:00 A.M., please plan to attend as this will be the only notification you will receive.

15

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# RETENTION OF SONGS, STORIES, AND POEMS BY RETARDED CHILDREN

Wanda Lathom, Ph.D.
University of Missouri-Kansas City
Music Therapy, Conservatory of Music

## Introduction

This study was conducted to determine whether there was a difference in the retention of materials when the structure of the message and the means of presenting it were varied. The term "message" is used in the same manner as it is used in information theory, which is any communication that is transmitted from the source to the receiver. Music therapists or teachers are constantly involved in an attempt to communicate in a more efficient manner. If the message may be viewed as a time series with events which are measurable and distributed in time, the study of communication may be more objective. The events which we call music, are human events. They are items of human behavior, composed by a person with a background of human experience that is related to the culture, and performed by people with similar cultural experiences. Sounds which form music are not random. They occur in a predetermined order and in a rhythmic structure which is often predictable. Composers do not select sounds at random. Frequencies are selected in an order to form a melody, and around a key center. Harmonies form progressions that are related to the key structure. Timbre is purposefully selected. Intensity is indicated by dynamic markings. All occur with order through time to form rhythmic patterns. Hiller suggest that "Music, sometimes defined as a compromise between chaos and monotony, appears to be the information theorist as an ordered disorder lying somewhere between complete randomness and complete redundancy." (1:110) Bands march to music, people dance to music, congregations sing hymns as the choir processes down the aisle. All of these events, and many more, are examples of ways that music may be used as an ordered phenomena that has an effect upon human behavior. Thus, each event within this unique time series, which is called music, has a probability function. The study of the probability of events is included in information theory.

A study of Isern (2) indicated that songs were retained better than stories. In Isern's study, 104 Ss were taught a song and a story. They were then tested for immediate, recent, and remote recall. The materials were matched for conceptual level and number of elements to be retained. Thus, the results were related to the selection of materials. The generalization should not be made that just any song will be retained better than any story. The structure and content of materials are of importance. The probability function is related to ability to predict the next event, which implies familiarity with the material or many similar materials.

## Information Theory

Information, as it is used in information theory, may be defined as the degree to which an event is unlikely to occur. If the next event can be predicted with a high probability, it carries little information, if it can not be predicted at all it carries maximum information. Thus, the way the term is used in the theory does not imply meaning or usefulness of the symbol. It is merely a measure of the rarity of occurrence. Naturally the information measure would change from one culture to the next. The rarity of occurrence of each symbol may be mathematically defined. In this case, it is expressed in "bits," which is a contraction of binary digits.

Songs, stories, and poems that are novel, in the sense that they are less predictable in form, choice of symbol, and number of times concepts are repeated would have a high measure of information, as defined by information theory. They have little apparent repetition. It is hard to guess the next event.

## Redundancy

The word redundancy is the exact opposite of information. If the next event is predictable and highly probable, it is considered to be redundant. This does not mean that it is wasted in communication. Rather, it may be viewed as insurance that the intended message will travel with an acceptable level of accuracy from the source to the receiver.

There is much redundancy in the harmony, melodies, and rhythm of western music. However, the ability to predict the rhythm, melody, or harmony requires repeated exposure to much music of a similar style. It becomes redundant only when one is familiar with many similar examples. Through the use of information theory, it is possible to mathematically derive the degree of redundancy, just as information may be measured and expressed in binary digits. However, at this time, it is difficult, if not impossible, to compare "bits" of information in different types of media.

In this study, the other forms of media that were used were stories and poems. Words also have a predetermined order. Spelling rules are formulated to determine letter order and grammatical rules determine the order of connecting words. These are the mechanics of language and can be studied by concepts of information theory because the probability of events may be defined for members of a similar language group. However, there is also content of ideas and expression. This, too, can be studied by looking at the sequence of words and noting the probability of occurrence of the entire sequence that forms an idea. In stories, redundancy is added by having similar events repeated by central characters, repeating certain phrases of words, limiting vocabulary so the array is within the ability of children. It is this later form of redundancy that was used in selecting stories for this study.

Redundancy is also measurable in poetry. The primary ways of making poetry redundant are through rhyme, which places restrictions on the selection of words in the total vocabulary array, form, which sets a pattern that forms verses, and the rhythm or poetic meter. Ideas and events or phrases spoken by main characters may also repeat. Because an exact measure of "bits" of information in media would not be practical and would not be a basis for comparison of information or redundancy among media, the extremes of information and redundancy and one sample that was intermediate were used rather than precise measures.

## Experimental Design

### Materials

Songs. Three songs were chosen by an expert in children's music who had had many years of experience in teaching songs to children. She was asked to choose three songs which would represent three levels of repetition. Repetition of musical phrases, lyrics, rhythm, and harmonic patterns were considered.

Stories and poems. The stories and poems were selected by an expert in children's literature, with many years of experience in telling stories and teaching poems to children. She was also asked to choose the stories and poems according to the extremes and middle of three levels of repetition. Ways in which repetition is used in stories include repetition of events and phrases of words. Many children's stories have one main character who performs a series of very similar events, with repetitious results of the actions. Poems also have repetition of events, as well as rhyme which limits selection of words and rhythm in the form of meter.

The materials were also submitted to experts in information theory, J.R. Pierce and E. N. Gilbert of the Bell Telephone Laboratories. Both have had considerable experience in the area of information theory. They were asked to judge the materials for levels of redundancy. Their judgement agreed with that of the experts in children's literature and music, but they both noted that simplicity is as important a variable as repetition. Pierce agreed that "a mechanical test of redundancy would be difficult and probably unreliable." (3)

## Subjects

The subjects for the study were institutionalized retarded children with a measured intelligence level of II or III (two or three standard deviations below the mean of 100). Eleven Level II and eleven Level III Ss were chosen from each of the three hospitals participating in the study (N=66). No attempt was made to choose an equal number of boys and an equal number of girls. However, other criteria for selection included hearing ability which was adequate to hear the songs, stories, and poems; speech ability which was adequate to take a verbal test; ambulation adequate to come to the music area to learn the materials; and some previous experience with songs, stories, and poems. The type of poetry that most of the Ss had been exposed to consisted of nursery rhymes. The mean age was 13.5 years.

## Method of Teaching Songs, Stories, and Poems

Since Ss were chosen from three different hospitals and taught by music teachers in each of these settings, the variable of difference in presentation was quite important. To control for this, an exact procedure was sent to each teacher. Before the teaching began, the procedure was reviewed with the teacher to be certain that the exact manner of presentation was clear. Each teacher was observed, to determine that the procedure was clear and exactly the same script was followed in each of the three settings.

The method of teaching the materials was reviewed by the same experts who had selected the materials. Both were very familiar with teaching methods used by elementary school teachers. Both experts agreed that the methods used were similar to those usually used to teach songs, stories, and poems to children and would be adequate for the study.

Order of presentation was also an important variable. If all the songs were presented after the stories and poems, it might be anticipated that they would be retained best because they were learned more recently. To control the effect of this variable, the materials were presented according to systematic randomization. On each day of the teaching schedule, one song, one story, and one poem was presented. Therefore, it took three days to present all three songs, stories, and poems. Ss were seen for half-hour sessions, so ten minutes could be spent on each song, story, and poem during each session. The teaching period lasted six days, which allowed the entire procedure to be presented twice.

Equipment. The equipment needed to teach the materials included only a piano for use in accompanying the songs, eleven chairs for the Ss, and pictures to illustrate main concepts in the materials.

## Testing for Retention

### Description of the Test

The retention test was divided into three parts: Recall, Chaining, and Verbal Concepts. The first was selected because it did not require a verbal response. Many retarded children score higher on tests that do not require verbalization. In testing retarded children, it is common to include items that can be answered by a pointing response or some type of selection from a group of possible answers. Thus, the first section of this test required the child to respond by pointing to items in pictures depicting important events in the songs, story, or poem. Since the ability to speak and understand a verbal test was included in the criterion for selection of Ss, the last two parts of the test for retention required verbal responses. Each subject was tested individually. The test involved recalling items of information about the song, story, or poem. The same number of questions was asked for each type of media, and the author attempted to keep all questions simple. The answer could be given by pointing to related pictures or with single word responses.

## Statistical Analysis of the Data

### Differences in Groups

*Intelligence and Age*. Because the Ss were retarded, and of different age groups, the factors of intelligence and age had to be noted in evaluating the retention scores. When the means of these groups were evaluated, using a Hotelling's T-Square, it was evident that older and more intelligent Ss tended to score higher than younger and less intelligent Ss. This is the conclusion that might have been anticipated, when the overall amount retained is considered.

### Difference in Media and Type of Media

The previous analysis only considered the amount retained, not the difference in retention of various kinds of materials. A treatment-by-treatment-by-subjects design was used to evaluate the differences among retention scores for songs, stories, and poems (media) and redundant, intermediate, and novel (type) forms of each. Since the previous evaluations by groups indicated that Ss with MI Level II and those with MI Level III were separate groups, a separate statistical analysis was made for each MI Level. The previous analyses also indicated that younger (age thirteen or younger) and older (age fourteen or older) Ss were two separate groups. Thus, age was considered in the treatment-by-treatment-by-subjects design by including both younger and older Ss in each MI Level. Level II included fifteen older Ss and seventeen younger; Level III included sixteen older and eighteen younger Ss. Thus, factors of intelligence and age are combined in the following tests.

TABLE I

TREATMENT-BY-TREATMENT-BY-SUBJECTS DESIGN FOR LEVEL II SS

| Source | SS | df | MS | F | P |
|---|---|---|---|---|---|
| Total | 2555.34 | 296 | - | - | - |
| Subjects | 1568.90 | 32 | - | - | - |
| Media | 112.87 | 2 | 56.435 | 23.419 | <.01 |
| Type | 99.46 | 2 | 49.73 | 2.902 | >.05 |
| Media X Type | 135.82 | 4 | 33.955 | 9.508 | <.01 |
| Error Media | 154.17 | 64 | 2.408 | - | - |
| Error Type | 334.44 | 64 | 5.225 | - | - |
| Error Media X Type | 149.68 | 128 | 1.1693 | - | - |

TABLE II

TREATMENT-BY-TREATMENT-BY-SUBJECTS DESIGN FOR LEVEL III SS

| Source | SS | df | MS | F | P |
|---|---|---|---|---|---|
| Total | 3962.73 | 296 | - | - | - |
| Subjects | 3244.95 | 32 | - | - | - |
| Media | 91.05 | 2 | 45.525 | 12.93 | <.01 |
| Type | 48.06 | 2 | 24.03 | 1.32 | >.05 |
| Media X Type | 41.13 | 4 | 10.28 | 6.71 | <.01 |
| Error Media | 225.40 | 64 | 3.52 | - | - |
| Error Type | 48.06 | 64 | 18.24 | - | - |
| Error Media X Type | 195.42 | 128 | 1.53 | - | - |

The difference in the three kinds of media were statistically significant beyond the .01 level. Further interpretation of the difference may be made by looking at the combined mean scores.

## TABLE III

## MEANS OF MEDIA FROM COMBINED TYPE SCORES

| | Song $\overline{X}$ | Story $\overline{X}$ | Poem $\overline{X}$ |
|---|---|---|---|
| Level II, N = 33 | 9.404 | 8.869 | 8.060 |
| Level III, N = 33 | 7.778 | 6.455 | 6.859 |

The means for song materials are higher than those for spoken materials, but the difference in the means must be evaluated statistically. Therefore, the Scheffé Test[4] was used for multiple comparisons to indicate the source of difference in the means, which contributed to the significant F score for media on the treatment-by-treatment-by-subjects design. Table IV gives the results when the Scheffé Test was used.

TABLE IV

SCHEFFE TEST FOR MULTIPLE COMPARISONS IN THE ANALYSIS OF VARIANCE

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Level II, N = 33

Comparison I (N Song = 33, N Story = 33)
Song $\bar{X}$ = 9.404 F, 2 and 64 df = .99
Story $\bar{X}$ = 8.869 $P > .05$
MS = 2.408

Comparison II (N Song = 33, N Poem = 33)
Song $\bar{X}$ = 9.404 F, 2 and 64 df = 6.25
Poem $\bar{X}$ = 8.060 $P < .01$
MS = 2.408

Comparison III (N Story = 33, N Poem = 33)
Story $\bar{X}$ = 8.869 F, 2 and 64 df = 2.26
Poem $\bar{X}$ = 8.0600 $P > .05$
MS = 2.408

Level III, N = 33

Comparison I (N Song = 33, N Story = 33)
Song $\bar{X}$ = 7.778 F, 2 and 64 df = 4.14
Story $\bar{X}$ = 6.455 $P < .05$
MS = 3.52

Comparison II (N Song = 33, N Poem = 33)
Song $\bar{X}$ = 7.778 F, 2 and 64 df = 2.00
Poem $\bar{X}$ = 6.859 $P > .05$
MS = 3.52

Comparison III (N Song = 33, N Story = 33)
Story $\bar{X}$ = 6.455 F, 2 and 64 df = .39
Poem $\bar{X}$ = 6.859 $P > .05$
MX = 3.52

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The media-by-type interaction is of greater importance and can be better understood by examination of the following graph.

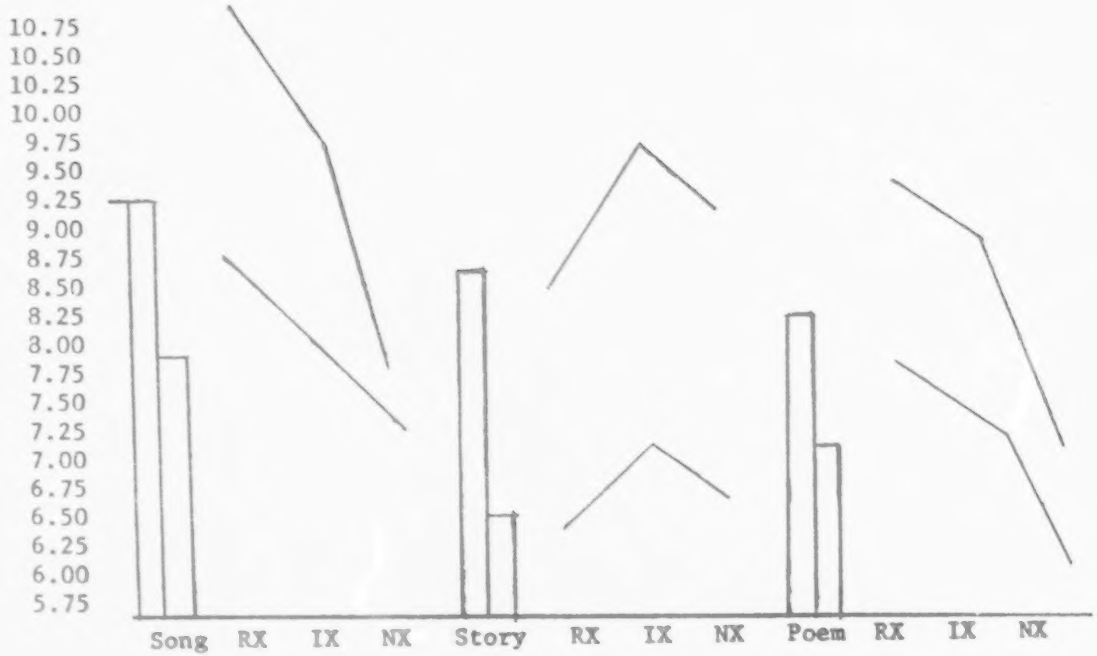

FIGURE 1. Graph of means of song, story, and poem media, and redundant, intermediate, and novel types within each media. RX, IX and NX indicate the means for the three levels of repetition within the media. R (redundant) is most repetitious, I (intermediate) is less repetitious, and N (novel) is least repetitious. The upper lines indicate MI level II Ss and the lower lines indicate MI Level III Ss. The bars are indications of means for media when all three types are combined. The higher of each pair indicates means for Level II Ss and the lower bar in each pair indicates means for Level III Ss.

On the treatment-by-treatment-by-subjects design, the differences in the type of media were not significant. This was not surprising, since the raw scores for type were combined from the three types of media, e.g. to get a total score for redundant type, the scores from the redundant story, song, and poem were combined. The same is true for total scores for intermediate and novel type. Since there was considerable difference in media, these differences cancelled out differences in type. Thus, the differences in type were not statistically significant at the .05 level.

The media-by-type interaction was significant at the .01 level. This significant interaction would indicate that retention was affected by both the kind of media and degree of repetition within the media. For example, the raw data indicates that the redundant song was retained best with considerable consistency. From the significant interaction effect, this must be interpreted as the result of the combination of the two variables, type and media.

## Discussion

The main purpose of the study was to determine whether or not materials that had apparent organization were retained better than those which had less apparent organization when they were presented to retarded subjects. Since the mean scores for the three types of each material (redundant, intermediate, novel) were not significantly different, the degree of organization may not be viewed as an independent factor. Rather, from the statistically significant interaction of media and type, it may now be stated that for subjects in this study the degree of organization within each type of media is an important consideration in retention of materials, but it does not seem to function in the same way for all materials. It should be noted that one cannot equate information or organization across three types of materials, but three levels of repetition were agreed upon by experts in the literature as well as experts in information theory.

In both the songs and poetry, the materials with the most apparent organization and the most repetition were retained best. Those that had been rated as intermediate were retained next best and those with the least apparent organization and repetition were retained the poorest. This is the order that might have been anticipated from concepts of information theory. If the organization of the material is apparent, it is more predictable and easier to classify or enter into memory. Materials that would be high in information content, as defined by information theory, are less predictable and harder to retain. The excess of repetition seemed to facilitate retention in the same way that redundancy is used to facilitate transmission of other kinds of messages.

Because the total mean score for all three songs was much higher than the total mean score for all three poems, it seems that more cues may have been given from the music. In music, predictability may come from rhythm, melodic sequence, harmonic progression, consistent timbre, and style or form. Materials that were predictable seemed to offer more cues for retrieval in the decoding or recalling of materials. The study should be repeated for further representation of songs, stories, and poems for each level of repetition. This would control for interest, previous familiarity and any specific variance associated with a particular type of song, story, or poem.

The stories did not follow the same pattern of retention as the poems and songs. All of the groups retained the story that was intermediate in apparent organization best, the story with the least apparent organization next best, and the most redundant story the least well. This would seem to indicate that in story materials, too much redundancy may lead to boredom or less attention. Gilford suggests that

"Maybe a child whose mind wanders needs frequent surprises (lack of redundancy) to keep him interested." (5) This certainly seemed to be true in the stories. This different pattern in the stories would also suggest that rhythm or meter may have been of considerable importance in holding attention in the songs and poems.

Many exceptional children distort the message. This may be from faulty reception due to a hearing loss, failure to see important ancillary cues due to a loss of sight, or distortion due to hallucinations or fantasies. It seems likely that a high degree of redundancy in materials would be necessary to assist these individuals in learning. The additional cues from the repetition incorporated in the structure of the materials would provide more opportunities to accurately receive the message. This is one of the ways in which information theory has been used to improve transmission of a message over a mechanical channel. If there is distortion (noise) on the channel, redundancy must be increased for maximum transmission. Additional studies are needed for human channels that distort materials.

Although all of the Ss of the study were retarded, the conclusions seem equally applicable for young children of normal intelligence. Comparison of retention of normal and retarded subjects would be an important continuation of this study. However, the task is very difficult. Belmont (in Ellis, 1966) listed the following variables that must be considered for comparison of normal and retarded group's retention: "difficulty and meaningfulness of materials; degree of learning; frequency and intensity of presentation; length of retention interval; ability level (as well as etiological factors); type of task (motor vs verbal; concrete vs abstract); relative distribution of learning; and degree of verbal mediation." (6) It is not possible for the teacher to control the "channel" which in a human receiver would be the brain) but it is possible to control the structure of the message and the manner of transmission (teaching method). Choosing materials with apparent organization and teaching for greater awareness of the organization can facilitate predictability. The results of the study seem to indicate that this is important in achieving maximum retention.

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# THE RELATIONSHIPS OF SELECTED ACADEMIC, MUSICAL, AND BACKGROUND FACTORS TO GRADES OBTAINED IN UNDERGRADUATE MUSIC THEORY AND EAR TRAINING COURSES

Sandra J. Emig, Instructor of Music
William Jewell College
Liberty, Missouri

The relationships of academic, musical, and personal background factors to performance in undergraduate music theory and ear training courses have long been a concern of collegiate music educators. Because successful completion of basic sequences in music theory and ear training is a requirement for obtaining an undergraduate music degree at nearly all colleges and universities, educators and administrators have sought to delineate these relationships in order to assist them in locating and counseling those students not likely to succeed in these courses and thus not able to receive an undergraduate degree in music.

There have been two major limitations in similar investigations conducted in the past. First, previous investigators have investigated numerous musical and personal factors which may influence final grades in music theory and ear training courses, among them melodic, harmonic, and rhythmic aptitude, musical influences in the home, years of applied study, age, and gender. However, they did not divide the factor of academic ability or achievement into various areas of study (e.g., English, Mathematics, Science), as they did with the musical and background factors. Second, most of the investigators did not examine the relationships existing between these musical, academic, and background factors and the entire required basic undergraduate theory and ear training program. Rather, they often examined only one or two aspects of the program, such as sightsinging, dictation, or harmony, occasionally for periods as short as one quarter or semester. Therefore, taking these past limitations into account, this study was designed to investigate the relationships existing between an academic test battery, a music achievement test battery, personal background information, and the subsequent performance of a large sample of students in the basic undergraduate music theory and ear training courses required of all undergraduate music majors.

In this study conducted at The Ohio State University School of Music, data were collected concerning students beginning the music theory and ear training basic sequences between 1969 and 1974 inclusive. The predictor variables relating to these students were classified into three categories. First, academic ability was measured by the component standard scores obtained from The American College Tests (ACT). A nationally-administered test battery, the ACT is designed to measure student ability in four distinct areas of academic study, namely English, Mathematics, Social Studies Comprehension, and Natural Science Comprehension. Second, music achievement was measured by the component raw scores obtained from The Ohio State University Music Placement Test Battery. A locally-administered test battery developed at The Ohio State University by Dr. William Poland, it comprises three distinct tests: Aural and Notational Skills, Music Recognition, and General Musical Information. Third, background information was collected concerning each student. This information included age, sex, gender, years of private study on the principal instrument or voice, years of private piano study, and participation in high school theory, history/appreciation, and performing ensemble courses.

The criterion variables in this study were the student grades obtained in the first, third, and sixth quarters of the basic two-year sequences in music theory and ear training required of all undergraduate music majors. Areas of concentration in the music theory courses include fundamentals, harmony, analysis, and creative writing. Those of the ear training courses include sightsinging, dictation, and keyboard harmony.

The data were then subjected to statistical analysis by The Ohio State University Statistics Laboratory, using the facilities of The Ohio State University Instructional and Research Computer Center.

Pearson product-moment coefficients of correlation (r) between the predictor and criterion variables were computed. A summary of these correlation coefficients comprise Table 1.

The predictor variable which consistently correlated the highest with grades in music theory courses was the ACT Mathematics score, and these correlations were always larger than any of the other correlations calculated for a given quarter. While the other ACT component scores did not at any time correlate as well with music theory grades as the ACT Mathematics score, the relative importance of all the ACT scores to theory grades increased through the sequence. This is evidenced by the fact that by the sixth quarter of the sequence, each of the four component scores of the ACT correlated higher with the music theory grade than did any of the musical or background factors. Of the component tests of the Music Placement Test Battery, the Aural and Notational Skills test score correlated the highest with first quarter music theory grades, followed by the Music Recognition and the General Musical Information test scores. This ranking of correlation coefficients did not remain constant through the sequence, however, as the General Musical Information test score correlated the highest with sixth quarter music theory grades, followed by the Aural and Notational Skills and the Music Recognition test scores. Of the background information collected, only the years of private piano study had a significant coefficient of correlation with music theory grades (at the .01 level). However, this correlation coefficient was

Table 1

PEARSON PRODUCT-MOMENT COEFFICIENTS OF CORRELATION (r) BETWEEN SELECTED PREDICTOR VARIABLES AND GRADES IN MUSIC THEORY AND EAR TRAINING COURSES

| Predictor Variables | Criterion Variables | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Theory | | | | | | -- Course Grades -- Ear Training | | | | | |
| | 1st Qtr. | | 3rd Qtr. | | 6th Qtr. | | 1st Qtr. | | 3rd Qtr. | | 6th Qtr. | |
| | N | r | N | r | N | r | N | r | N | r | N | r |
| *The American College Tests* Scores | | | | | | | | | | | | |
| English | 1008 | .40 | 630 | .24 | 496 | .35 | 946 | .34 | 591 | .32 | 491 | .27 |
| Mathematics | 1008 | .47 | 630 | .36 | 496 | .40 | 946 | .40 | 591 | .35 | 491 | .30 |
| Social Studies Comprehension | 1008 | .36 | 630 | .26 | 496 | .37 | 946 | .27 | 591 | .26 | 491 | .22 |
| Natural Science Comprehension | 1008 | .38 | 630 | .25 | 496 | .32 | 946 | .28 | 591 | .26 | 491 | .21 |
| *The Ohio State University Music Placement Test Battery* Scores | | | | | | | | | | | | |
| Aural & Notational Skills | 1165 | .42 | 704 | .31 | 559 | .23 | 1084 | .60 | 659 | .52 | 553 | .59 |
| Music Recognition | 1165 | .25 | 704 | .17 | 559 | .17 | 1084 | .31 | 659 | .20 | 553 | .14 |
| General Musical Information | 1165 | .23 | 704 | .29 | 559 | .26 | 1084 | .40 | 659 | .32 | 553 | .22 |
| Background Information | | | | | | | | | | | | |
| Age | 1165 | -.02 | 704 | .06 | 559 | -.02 | 1084 | -.05 | 659 | -.01 | 553 | -.06 |
| Gender | 1165 | .09 | 704 | .07 | 559 | .02 | 1084 | .10 | 659 | .03 | 553 | .05 |
| Years of Piano Study | 1165 | .15 | 704 | .15 | 559 | .12 | 1084 | .16 | 659 | .22 | 553 | .21 |
| Years of Study on Principal Instrument or Voice | 1165 | .07 | 704 | .05 | 559 | .04 | 1084 | .12 | 659 | .08 | 553 | .08 |
| H.S. Theory | 1165 | .08 | 704 | .08 | 559 | .07 | 1084 | .02 | 659 | .03 | 553 | .02 |
| H.S. History/Appreciation | 1165 | .07 | 704 | .07 | 559 | .02 | 1084 | .03 | 659 | .05 | 553 | .09 |
| H.S. Ensembles | 1165 | .08 | 704 | .03 | 559 | .03 | 1084 | .05 | 659 | .07 | 553 | .07 |

NOTE: Underlined correlation coefficients are significant to the .01 level less than the correlation for either musical or academic test scores and music theory grades in any given quarter.

Although an academic predictor variable, the ACT Mathematics test score, correlated the highest with music theory grades; a music predictor variable, the Aural and Notational Skills test score, consistently correlated the highest with ear training grades. Correlation coefficients computed between the Aural and Notational Skills test score and ear training grades from each quarter of study were much larger than any computed in relation to the music theory grades. The General Information and Music Recognition test scores correlated less with ear training grades than did the Aural and Notational Skills test score. Of the four components of the ACT, the Mathematics score had the highest correlation coefficient with ear training grades; however, all four ACT scores' correlation coefficients with ear training grades were in approximately the same range as those of the Music Recognition and General Musical Information test scores for any given quarter. The only background predictor variable which consistently correlated significantly at the .01 level with ear training grades was the number of years of private piano study, and it correlated generally as well with ear training grades as did some of the academic ability and music achievement predictor variables.

Once the Pearson product-moment correlation coefficient analysis was completed, stepwise multiple regression analyses were computed to determine various multiple coefficients of correlation (R) with each of the course grades. Table 2 contains a summary of the multiple correlation coefficients obtained between the course grades and four groupings of predictor variables.

The multiple correlation coefficients between the collective ACT scores and music theory grades were always at least as large as the respective multiple correlation coefficient between the

Table 2

MULTIPLE COEFFICIENTS OF CORRELATION (R) BETWEEN SELECTED GROUPS
OF PREDICTOR VARIABLES AND GRADES IN MUSIC THEORY AND EAR TRAINING COURSES

| Predictor Variable Batteries | Criterion Variables | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Theory | | | | | -- Course Grades -- | | | | Ear Training | | |
| | 1st Qtr. | | 3rd Qtr. | | 6th Qtr. | | 1st Qtr. | | 3rd Qtr. | | 6th Qtr. | |
| | N | R | N | R | N | R | N | R | N | R | N | R |
| *The American College Tests* Scores | 1028 | .51 | 668 | .36 | 496 | .45 | 988 | .44 | 634 | .37 | 490 | .33 |
| *The Ohio State University Music Placement Test Battery* Scores | 1189 | .47 | 747 | .36 | 559 | .29 | 1130 | .63 | 706 | .53 | 552 | .49 |
| *The American College Tests* and *Music Placement Test Battery* scores | 1028 | .59 | 668 | .43 | 496 | .47 | 988 | .67 | 634 | .57 | 490 | .52 |
| *The American College Tests* scores, *Music Placement Test Battery* scores, and All Background Information | 973 | .61 | 641 | .45 | 473 | .48 | 948 | .67 | 615 | .59 | 471 | .55 |

NOTE: All multiple correlation coefficients are significant to the .01 level collective Music Placement Test Battery scores and the music theory grades in any given quarter. The addition of the Music Placement Test Battery scores to those of the ACT offered little information to increase the multiple correlation coefficient. Indeed, the addition of the Music Placement Test Battery scores to those of the ACT offered so little new information concerning the multiple correlation with sixth quarter music theory grades that, statistically, their presence in the multiple correlation coefficient of the sixth quarter music theory grade was not necessary. Finally, the addition of the background information to the scores obtained on the ACT and Music Placement Test Battery did not significantly increase the multiple correlation coefficient with any of the music theory grades.

Quite different results were determined concerning the various multiple correlation coefficients with grades in the basic ear training courses. Collectively the ACT scores correlated well with these grades, but the addition of the Music Placement Test Battery scores to those of the ACT always significantly increased the multiple correlation coefficients. The multiple correlation coefficients between the collective Music Placement Test Battery scores and ear training grades, on the other hand, were much larger than those between the collective ACT scores and the ear training grades. As a result, the inclusion of the ACT scores with those of the Music Placement Test Battery did not produce large increases in the multiple correlation coefficients. And once again, the addition of a student's background information to the scores obtained on the ACT and Music Placement Test Battery offered so little increase in the multiple correlation coefficients that, statistically, its inclusion in the multiple correlation coefficients of the ear training grades was not warranted.

In summary, the inclusion of The American College Tests component scores as measures of specific areas of academic ability offered larger correlation coefficients with grades in undergraduate music theory and ear training courses than had been suggested in results in earlier studies. Both the Pearson product-moment correlation and stepwise multiple regression analyses illustrate that the academic measures of the ACT scores correlated most highly with the obtained grades in the music theory courses, while the musical achievement measures of The Ohio State University Music Placement Test Battery scores correlated most highly with grades in the ear training courses. Individually or collectively, the personal background information offered far less information concerning subsequent student performance in undergraduate music theory and ear training courses than did either the ACT or Music Placement Test Battery scores.

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*This paper is based on the author's dissertation, "The Relationships of Selected Academic, Musical, and Background Factors to Grades Obtained in Freshman and Sophomore Theory and Ear Training Courses at The Ohio State University" (Ph.D., The Ohio State University, Summer 1978).*

# AMERICAN TUNE BOOK COMPILATIONS USING SHAPED-NOTE SYSTEMS, 1801-1860

## A FORERUNNER OF AMERICAN MUSIC EDUCATION

David Lamar Oakley

## Introduction

The data in this paper are extracted from the document, AN ANNOTATED CHRONOLOGY OF TUNE BOOK COMPILATIONS USING FOUR AND SEVEN SHAPED-NOTE SYSTEMS 1801-1860, by David L. Oakley, 96 pp., prepared for a National Endowment for the Humanities Summer Seminar in Music History, "Music in the United States Before the Civil War," directed by J. Bunker Clark at the University of Kansas, Summer 1978. The document includes data on 84 compilers of four-shaped systems whose work produced 90 compilations which appeared in 253 editions. The document also includes data on 31 compilers of seven-shaped systems appearing in 80 editions. In addition, appendices in the document account for an unusual number of publications by Andrew Law. These and some presumed editions bring the total number of shaped-note tune books during the period to well over 400. Although various dissertations and publications have dealt with aspects of the shaped-note movement, no single work has presented a comprehensive view of the movement in terms of theoretical context, teaching ideas, and geography of movement. However, it should be noted that since this paper was prepared, the Institute of Studies in American Music has announced a monograph, A CHECKLIST OF FOUR-SHAPED SHAPE-NOTE TUNEBOOKS by Richard J. Stanislaw, published October 1978.

In a sense, the shaped-note movement is a miniature study of the development of music of a Renaissance found in rural America where for a while shaped-note music was the mainstream of music. This paper will emphasize the American enterprise of music education as reflected in the entrepreneurs who brought and sold music to the people.

## Terminology and Limitations

This paper is limited to character notation of geometric shapes, that is, shapes which include plane space within a parameter. Although musical character notation of the period included other types of symbols, as numbers or letters placed upon a staff, they are not included in this study. I am concerned with the notion of symbolic generalization and the degree to which the brief success of the shaped-note movement and its evolvement reinforces the theory of human behavior called "discovery theory." This paper does not deal directly with the theory, but provides a chronology to aid in that study.

Certain terms are important. The person(s) who compile, edit or amass the various published collections are called compiler(s) and the results are called compilations. The term shaped notes is used rather than "character notation" because of the exclusion of other than plane geometric shaped notation from this study. In some instances, these have been called "patent notes" because the compiler or the printer sought patent rights on the process of printing these shaped notes. Almost all of the compilations have a type of musical setting sometimes called a "fugueing" tune, sometimes spelled "fuguing" tune and sometimes spelled fuging tune. The latter term will be used in this study for that class of tune settings. Most of the compilations have pages of instruction about music in the first part of each volume. Various authors call these the "theoretical introductions"; however, these sections will be called the rudiments, which is the most common name used by the compilers.

References in the paper are bibliographic and hence no footnotes are used. Locations of volumes are identified by library symbols used by Shaw-Shoemaker.

## Factors Leading to Shaped Notes

The artistic level of congregational singing in the majority of churches in New England in the seventeenth and early eighteenth centuries was so low that an effort was made to improve its quality. Between 1717 and 1721 an enterprise called the singing school was developed outside of the churches' regular liturgy or service times, but in the hopes that trained singers would provide a congregation that could worship in part by singing of songs as well as in silence.

Itinerant teachers of singing visited congregations each evening for periods of time of two weeks to a month and conducted singing schools. But in New England, about 1800, an influx of European musical selections replaced many short and musically simple American tunes. The organ had replaced the singers as the dominant producer of musical sound in some churches and the choir in others. The men surrendered the melody line to the women. Men had been a mainstay of the singing school. The itinerant singing school teacher moved from New England to the West through Pennsylvania and to the South through Virginia. He found it pragmatic to have for sale and distribution a single volume which contained all the rudiments of the "science of music" as well as a sufficient repertory of tunes.

The model compilation had both English and American origins but it led toward a fairly complex study of the rudiments of music. The new singing school teacher also found it pragmatic to include only such rudiments as were necessary to teach persons to sing at sight in a very short period of time. The concept of shaped notes removed several mental steps between seeing the note and singing it. With shapes it was not necessary to learn the names of lines or spaces or key signatures. From the outset, almost any learner met with some success, provided the music was not too complex and the music was "tuneful."

The rudiments section of shaped-note compilations included:

1. The "gamut" or scope of human singing range explained.
2. Rules to find the "mi" or leading tone.
3. The shapes of the notes and their constant relationship to "mi".
4. The syllables assigned to each shape as faw, sol, law.
5. How to sing in any key by just shifting the "mi".
6. The moods of time, meaning the speed and meter in which the tunes were set.
7. Other characters used in music as rests, the tie, and hold.
8. A few comments about expression as when to sing loud or soft.
9. Lessons for tuning the voice, meaning some vocal exercises in scalar or intervallic patterns.

The rudiments could occupy as few as three pages or as many as fifty. The majority had from five to ten pages.

The music section of shaped-note compilations usually included simple hymns in two, three or four-voice settings, fuging tunes which were short pieces with polyphonic sections and anthems and other set tunes which were generally longer through-composed pieces. The texts were almost always based on sacred materials.

The Civil War, the emergence of denominational church music boards and public school music seeking more sophisticated music, and new forms of entertainment caused the rapid decline of the singing school and its literature after 1860. A few compilers continued to print in this older style of music after 1860 and they are listed in this paper.

The *Sacred Harp* has endured through singing societies devoted to its preservation as have a couple of other compilations. The seven shaped-note system is used to this date by many "gospel" music publishers. But the literature has changed both in text and in manner of print. There are singing schools today but they are taught by teachers who have been trained in "normal schools" for singing school teachers.

For a considerable portion of the population in the Shenandoah Valley, Pennsylvania, Ohio, Kentucky, Tennessee, and the deep South the shaped-note compilation was the mainline of American music from 1801 to 1860.

## Highlights of the Enterprise of the Four-Shaped System

William Little and William Smith in 1801 presented a method of self-teaching the science of music. More than 50 editions of the *Easy Instructor* exist. The first known edition is dated at 1801. Because the subsequent compilations offer changes of various sorts, a somewhat extensive annotation is offered for the *Easy Instructor*.

### 1801

William Little and William Smith. *The Easy Instructor, or A New Method of Teaching Sacred Harmony*. Containing, The Rudiments of Music on an improved Plan, wherein the Naming and Timing of the Notes are familiarized to the weakest Capacity. With a choice Collection of Psalm Tunes and Anthems from the most celebrated Authors, with a Number composed in Europe and America, entirely new; suited to all the Metres sung in the different Churches in the United States. [Philadelphia, 1801]. [2], 105 (i.e. 106) p. [No. 12 is repeated in paging]. CtHC. (The abbreviations of locations are taken from the National Union Catalog issued by the Library of Congress.)

Apparently it was Charles and George Webster, and Daniel Steele of Albany who began printing shaped-notes. It is not until 1848 that credit is given for "patent notes" and this is contained in the preface of William Hauser's compilation, The Hesperian Harp. According to Jackson this credit is given to Little and Smith (White Spirituals, p. 14). The copyright was obtained by G. R. Waite and Company of New York in 1802 and was then sold to Daniel Steele and Charles R. and George Webster who then applied for a patent on the shaped-note printing. A patent to cover the casting and use of shaped-note type was granted to George Webster acting as agent for his brother Charles and Daniel Steele on February 28, 1816.

There are points for argument on the identity of the inventor of the shaped-note system, but researchers seem to favor Little and Smith. A claim by Andrew Law cannot be substantiated. It is possible that Ishmael Spicer may have used "four significant characters" adapted from the materials of Andrew Adgate (see 1805) and Law may have been influenced by this. That would make Law the third person to put forward a system of shaped notes and not the second.

A part of the preface of The Easy Instructor is identical to Ralph Harrison's Sacred Harmony, London, 1784. This is an example of the common practice of compilers copying from other compilers.

Almost all subsequent shaped-note compilations will bear comparison to The Easy Instructor in format and in pedagogical and musical content, therefore the following data may be helpful.

The syllables and notation are "faw"◺, "sol" ○, "law"□, and "mi"◇, and are common to all of the editions of The Easy Instructor.

In most of the editions, the leading tone is raised in the rudiments, using the G major scale for the exemplar (Rogers, p. 87).

In The Easy Instructor all major keys are called sharp and all minor keys are called flat. No tune has more than four sharps or flats in the key signature. When an accidental has been added to the work in addition to any found in the key signature, the key is called artificial. The keys of C major and A minor are called natural or primitive. These terms seem to have been adapted from The Village Harmony, 1800 (Rogers, pp. 92-94).

With the exception of an 1802 edition, scales are introduced in both the G and F clefs in five patterns of time-values, ascending and descending, but using only the G scale (Rogers, p. 97).

Other than "faw-sol-law-mi" there are no phonic syllables or note names used (Rogers, p. 197).

There is mention of beating time with the hand. Subsequent compilers will stress this as a learning device and singing school teachers will allow it when performing. But in The Easy Instructor there is some question as to just how much beating of time was intended. In the rudiments the beating of time is suggested as an aid to the learning of "driving notes" or the ornament of syncopation. The Easy Instructor was advertised as a musical teaching system without the aid of an instructor. The pedagogical concept was to order one thing at a time. One of the teaching devices was the slide-rule which is a card used to mask half of a beat (measure) at a time. This makes it impossible to move the card and beat time at the same time. It also places the concept of the half note as integer in the minds of the learners. This concept reduces the number of moods (time signature permutations) to just four. Between 1802 and 1812 there is a reordering of the rhythmic rudiments (Rogers, pp. 76-79).

The assumption of an ordered and reasonable universe made the ordering of the rudiments of music for self-teaching seem quite feasible. Much rhetoric about music as a science was followed by many words in the early compilations. The concept of generalization (symbols before words) will come only with the latter-day compilers.

All of the tunes are cast in one of four moods or metres: C.M. (8.6.8.6.), L.M. (8.8.8.8.), P.M. (irregular), and S.M. (6.6.8.6.) except for a few items of prose freely set as anthems (Rogers, p. 191).

Three-part hymns comprise six percent of the 1810 issues and forty percent of the 1817 issues. They are strophic, mostly syllabic, and a variety of texts are applied to the same tunes. Some expanding of melody by use of additional notes appears by 1817 (Rogers calls them "ornamental hymns"). The expansion of melody involves non-chord tones which are called transitions or appoggituras according to the compiler, but neither is treated in the rudiments of any edition of The Easy Instructor (Rogers, p. 111). Through-composed anthems decline from four in 1810 to three in 1817 and fuging tunes remain in all issues (Rogers, p. 25).

Major intervals are called greater, sharp, or perfect. Minor intervals are called lesser, flat, or imperfect. Unisons, thirds, fifths, and sixths are concords. Seconds, fourths, and sevenths are discords. The diminished form of a perfect interval, in the present day sense, is called minor. Semi-tones are presented in relationship to the pitch of G. Chord is spelled cord and many other terms vary slightly from present day spellings. As consecutive editions are released, there is a decline in the use of English terms in favor of Italian. The spelling of the names of composers and tunes varies with the edition (Rogers, p. 90).

There seems to be an abundance of printing errors. As an example, in the 1810 issues Windham, by Read, has an E-natural in the top clef against an E-flat in the alto clef in what should be a dominant chord in F-minor. In the same piece the leading tone was not raised and the seventh chord is minor and not diminished. Many "wrong" sounds can be attributed to a cömbination of printing errors, horizontal voicing, the use of pure minor, and parallelism (Rogers, pp. 156-159).

Expression marks and ornaments are few because the pieces are short and linear. By 1817 *The Easy Instructor* employed expression symbols in about thirty percent of the tunes, the most common being the *tie* (Rogers, p. 161). The *tie*, *beam*, or *slur* means as many notes as are under the tie will be applied to one syllable of text (Rogers, p. 106). The words *dot* or *point* are used as the *mark of distinction* or *staccato* and this is indicated by a wedge ▾ above the note. This means to accent the syllable clearly (Rogers, pp. 104-105). The *hold* 𝄐 is in all but the earliest of editions (Rogers, p. 107).

Dynamics are achieved by "high notes soft, low notes full and bold but not harsh" (Lowens catalogue S, 1818, p. 8) and when a soft effect is desired, the number of persons singing each part is reduced. There is the implied practice of terraced dynamics but the concept of gradual dynamics does not seem to be present in *The Easy Instructor*. The singer of solos should be softer than the ensemble. Loud passages should never be forced. All should sing distinctly and "if the poetry is good and the music is good the accents will fall naturally" (cited by Rogers, pp. 115-122).

A repeat consists of four dots ⁞ and the later issues will include the bar line also. A special repeat below the music :||: means the text only is repeated. The *figure 3* is a term for the triplet in all editions and is explained as a *diminution* meaning that three notes must be reduced or diminished to the time of two notes (Rogers, pp. 102, 104, 109).

A *direct* (in the shape of a script w ) shows where the first note on the next stave will be, this being used in most later editions (Rogers, p. 108).

In practice the rudiments were probably skimmed over. All that was really necessary was to know the shapes of the notes, their sounds, the name of the hymn or psalm, the meter of the tune and a starting pitch. The less experienced were placed beside the more experienced singers. Both men and women sang all parts except the bass.

Textual topics included God in nature, praise of and faith in God, death and sorrow, and God's judgement. By and large the textual sources were British (Rogers, p. 183).

### 1805

Andrew Law, *The Art of Singing; in Three Parts, to wit, I. The Musical Primer, II. The Christian Harmony, III. The Musical Magazine*.

The organization of Law's *Art of Singing* is different from that of any other compilation. He proposed to issue, in three parts, *The Art of Singing*, with *The Musical Primer* as Part I, *The Christian Harmony* as Part II and *The Musical Magazine* as Part III. *The Christian Harmony* had *Volume I* and *II* and was ultimately replaced by a part called *The Harmonic Companion*. *The Musical Primer* ultimately had a supplement. *The Musical Magazine* had six parts. The above were issued in varying combinations and in varying issues.

Andrew Law pioneered the "tune in the top part" instead of the tenor in 1793 and made the half note the basic unit of all time signatures by reducing the number of moods (Britton, p. 220). The only meter signatures were 2/4, 4/4, 3/2 and 6/4; therefore a single note could have no more than three rhythmic values (Perrin, p. 85). Tempo markings were added (tempo giusto, etc.), hence prolated time was freed from tempo. If Law had any influence on subsequent compilers, it was not in the areas of time and tempo.

Law claimed a shaped-note system as ready for publication as early as 1785 or 1786. Law may have been influenced by the four characters used in the Andrew Adgate system. Law had taught singing classes in Alexandria, Virginia in 1791 and 1972 (Eskew, p. 17) and may have followed Ishmael Spicer who advertised Adgate's system in nearby Baltimore as the newest and "most approved plan in America" (adv. October 30, 1789). Adgate's system was taught by Spicer who refers to "four significant characters." Certain similarities between Law and Adgate are evident. Both use a more European selection of tunes. Both use four symbols or shapes which make seven in number by modifications which do not alter the basic shapes. Law's system is faw □ sol ○ law ◺ mi ◊ , which with the addition of dots become faw □ sol ○ law ◺ faw □̇ sol ○̇ law ◺̇ mi ◊ . Adgate adapts from fa ø sol d la ⊘ mi ɸ to fa ø sol ⊙ la ⊘ fa ø sol ρ la ⊘ mi ɸ . Both eventually use seven syllables and Adgate adds syllables for the semi-tones. Both issued printed sets of rudiments without tunes and then later combined the rudiments with sections of tune selections. The combination of influences of Law and Adgate does not surface until 1835 with Mason's *Sacred Harp*.

The striking difference between Law and any other compiler is the elimination of the staff to which he is ultimately compelled to return.

## 1810

John Wyeth, *Wyeth's Repository of Sacred Music*, or *Repository of Sacred Music*. Harrisburgh: Printed by John Wyeth, 1810. 120 p. CtHC, MWA, OClWHi, P.

Jackson, in *White Spirituals*, page 31, feels that Wyeth may have collaborated with Ananias Davisson. Wyeth had been an apprentice printer who eventually settled in Harrisburgh, Pennsylvania (in 1792) and worked on the weekly paper *Oracle of Dauphin*, eventually buying it. Jackson calls this an excellent imitation of *The Easy Instructor*, probably because almost half of the 156 tunes are taken from *The Easy Instructor* (Stevenson, *Protestant Church Music in America*) and Lowens has traced 47 of these tunes to Walker's *Southern Harmony*, 1835 and 53 to White's *Sacred Harp*, 1844. This shows the trend toward both a market in the South and a preference for tunes by American composers.

The Little and Smith notation is used, however Wyeth credits Andrew Adgate as the source for materials for his rudiments. Syllables are *me*, *fa*, *sol*, and *la*.

*1813*

John Wyeth, *Wyeth's Repository of Sacred Music. Part Second*. Harrisonburgh: Printed by John Wyeth, 1813. 132 p. MWA (Shaw-Shoemaker 30589), OClWHi, PPiW.

There are changes in syllables from the 1810 (Part First) in that *fa* becomes *faw*, *la* becomes *law*, and *me* becomes *mi*. The same shapes are used for the notes.

According to Metcalf (p. 145) this compilation was intended for Methodists. Nevertheless it is of greater significance among shaped-note compilations.

________. *Part Second*--2nd. Edition . . . . 1820. 132 p. DLC, PPiW, and facsimilie reproduction by DaCapo Press, New York, 1964, from NcWsM.

These two editions will influence a number of compilers. Rogers (p. 19) says over 25,000 copies were sold. Crouse (p. 25) calls this the first shaped-note compilation to contain a significant amount of folk and revival tunes. Lowens (*Music and Musicians*, p. 144) identifies 1/3 of the tunes as being of folk origin and not previously published. Lowens (*Music and Musicians*, p. 134) and Harley (p. 22) trace nearly half of the tunes in these editions as having been in various editions of *The Easy Instructor*.

Harley (p. 62) considers this a "southern" book because of the folk hymns and Lowens (in the introductory pages, viii and ix, of the 1820 facsimilie) presents a table of tunes which appear in Repository, Part Second that are found in Davisson's Kentucky Harmony, ca. 1815, Boyd's Virginia Sacred Musical Repository, 181, Carden's Missouri Harmony, 1820, Funk's Genuine Church Music, 1832, Walker's Southern Harmony, 1835, and White's Sacred Harp, 1844.

Wyeth prefaced his rudiments with an explanation of the transposition of the scale by 4th and 5th and this seems to be the model for Davisson, Carden, and William Rhinehart (American or Union Harmonist) (Perrin, p. 41). Lowens does not feel that Wyeth was a musician (Music and Musicians, pp. 150-151) but relied upon his music editor, the Reverend Elkannah Kelsay Dare, who combined the vigor of New England music with music of the Scotch-Irish-English oral tradition. Hence the folk hymn. The 1813 edition contained 149 tunes, of which 58 are claimed as new and 31 are fuging tunes. The 1820 revision contains 13 new tunes by Dare and seven by a Chapin, presumed to be Lucius Chapin. Jackson, Lowens, and others have speculated on the identity of Chapin and other authors of the "folk-hymns," but in many cases no conclusions can be reached. Jackson feels that Davisson may have collaborated with Wyeth and this would provide an even stronger link between Wyeth and the "southern" compilers (White Spirituals, p. 21).

## 1814

Freeman Lewis, The Beauties of Harmony, containing the rudiments of music on a new and improved plan. Pittsburgh: Printed by Looker & Wallace, for Cramer, Spear & Eichbaum and Freeman Lewis, 1814. 200 pp. IaHa, OC, OCHP.

The Beauties of Harmony is significant in that Allen D. Carden will use this to draw from for his Missouri Harmony. Carden draws both theoretical materials and tunes from Lewis. Lewis defines 350 musical terms and Carden will use many of these in his *Western Harmony* and his *US Harmony*. Lewis will pair three-part settings with four-part settings on the same page. This eliminates crowding and Carden will use this in 1829. These and other comparisons between Lewis and Carden appear on page 26 of Crouse's dissertation.

The rudiments include the presentation of the musical characters or examples, each in a box. There are 40 such boxes. Much of the rudiments seem derived from Wyeth's *Repository*, for example: notes above the staff are "notes in alt," below are "doubles," flat keys are called "low" (minor) and sharp keys are called "high" (major), and the tape measurements for the metronomes are the same (Crouse, p. 26).

The section on singing ("tuning the voice") will appear in Carden's *Western Harmony* (Crouse, p. 26).

*1816*

Ananias Davisson, *Kentucky Harmony*. Harrisonburg, Va. n. publ., 1816. 140 pp. KyBgW, MiU-C, NBug.

All of the tunes are in four-part harmony. The syllables are *faw*, *sol*, *law* and *me*, and the four shapes are those of Little and Smith. There are a variety of spellings of terms and songs by Davisson, not just in *Kentucky Harmony*, but in his other compilations as well.

In the preface Davisson speaks of "practical knowledge" in defense of his musical authority: however, his pragmatism is unequalled among shaped-note compilers. In an effort to make the music simpler, he shortened the introductory materials, presuming the singers will already know some of these things (Harley, p. 37) and omitted seven musical symbols: the accidental sharp, flat and natural, the hold, the staccato, the trill and the C Clef. (See page 3 of his rudiments and also see Eskew pages 28 and 29 for commentary.) Harley (p. 37) points out that in one of his own tunes he bothers to change the key signature to include an f-sharp to make his composition sound "right."

The success of Davisson's compilations lay not in their musical sophistication but because he was both the first shape-note compiler in the Shenandoah Valley and hence the South, but also because he based his material on the very successful Easy Instructor and Repository, Part II (Eskew, p. 56). He also enlisted the aid of singing school teachers as selling agents. Since he was the only compiler in the south who printed his own materials at that time, he was able to produce at lower costs than competitors. He will influence Steffey's Valley Harmonist, 1836 in the omission of accidental sharps and flats. Caldwell will copy much of the materials from the rudiments in Union Harmony, 1837 (Jackson, White Spirituals, p. 52).

Davisson does not mention the names of composers except beside the index entry and these are not always accurate. Lowens (Music and Musicians, pp. 145-147) compared 15 tunes which Davisson took from Wyeth's Repository, Part II., and found three which Davisson claimed as his own. Harley (p. 22) identifies 39% of the tunes as coming from the 1807 edition of The Easy Instructor and 49% of them having been published in the 1809 edition of The Easy Instructor. Eskew (p. 29) identifies about 25% of the tunes as folk-hymns.

There are 13 pages of introductory materials in the first edition. There will be only 5 or 6 pages in later editions and other compilations by Davisson. The viewpoints toward musical theory are expressed much like Little and Smith and the format is much like Wyeth's Repository, Part II (Harley, p. 35).

There seems to be no influence of Billings or his contemporaries, but 40% of Davisson's tunes are found in Nehemiah Shumway's American Harmony, 1801 reprint, some tunes are from Andrew adgate's Philadelphia Harmony, and 98 tunes are traceable to Wyeth. There is detailed information about the sources of Davisson's tunes in the introduction to the facsimilie by Lowens.

________ . . . Edition 2. Harrisonburg, Va. Printed and sold by the author, [1818] n.d. 148 p. DLC, ICN, KyU, MWA (Shaw-Shoemaker 43817), ViHarEm (fragment only), ViU.

The list of locations of volumes is from Harley except for the last entry, ViU, which was added to the Harley list by Lowens. Fifteen tunes will be removed from the first edition and will be replaced by 18, of which Davisson claims authorship of seven. Davisson also credits a number of singing masters by name and, since he is now his own printer and seller, this enhances sales. He also credits Little, Smith, Wyeth, Billings, Holyoke, Atwell, and Peck as compilers from which he drew, but does not link names with specific compositions.

In the second edition Davisson "observes" the necessity to attend singing schools because of the moral obligation to develop the talent given by God. Also he cites the necessity to eliminate discords in church music (Harley, p. 39).

The influence of Kentucky Harmony is considerable. Lowens' commentary in the introduction to the facsimilie is summarized as follows: Funk borrows songs for his two-part settings in Die allgemein nutzilche Choral-Musik, Davisson is the printer of Carrell's Songs of Zion in 1821, William Moore follows Davisson in omission of the seven musical symbols in 1825 in Columbian Harmony, Caldwell uses 63 Kentucky Harmony tunes in 1837 in Union Harmony, Jackson uses 54 Kentucky Harmony tunes in 1838 in the Knoxville Harmony of Music Made Easy, Carden uses 111 Kentucky Harmony tunes in 1820 in Missouri

Harmony, and White and King use 58 Kentucky Harmony tunes in the 1854 Sacred Harp. Subsequent issues of the Sacred Harp and other southern volumes used by "singing conventions" contained much material from the Kentucky Harmony.

Davisson simplified not only the rudiments of music but concepts about music. Each of his editions had three parts: I. Plain and easy tunes used in church; II. More elegant and lengthy tunes for concerts and singing societies; and III. Anthems. While this concept of placing the easier material at the first of the volume does not originate with Davisson, he seems to underscore simplicity by defining grades of music varying according to the function. He eliminates the C clef for the counter-tenor and uses the G clef for all parts except the bass. He singles out a as the pitch on which most tunes in minor mode start. The teaching device of question and answer is used in the rudiments. The pyramid device is used to proportion the number of persons singing a part with fewer on melody to most on bass. Minor (flat) keyed songs should be sung softer than major (sharp) keyed songs, the bass always soft for flat keys.

Perhaps the appeal of Davisson's music lay in the movement that each part had for the singer. The making of a tune so that it is interesting is easy, but to make the harmony part equally as interesting is a problem. Davisson freely "southernized" the parts when he thought it would help and did not hesitate to cross voices. Harley studies this in detail in his dissertation, pp. 59-86. There were five editions altogether.

1816

Timothy Flint. Columbian Harmonist. Cincinnati: Published by Coleman and Phillips, Printed by Looker, Palmer, and Reynolds, 1816. 204 p. MH, CSmH, Nhi, OCHP.

The Reverend Timothy Flint was a well-educated New Englander whose varied interests included charity and possibly counterfeiting (Bean, p. 81). At the time he arrived in Cincinnati, 1815, he was appalled at the crude tastes in literature in music. He spent some time in St. Charles, Missouri, went back to Cincinnati, and in 1827 returned to New England.

In the preface to his compilation he attacks fuging tunes and he includes "slow and solemn" pieces and few tunes by American composers. There are no fuging tunes and the only agreement with other compilers of shaped-note music is the use of that kind of notation, the same as Little and Smith (Bean, p. 85). He relaxes the strict mood structure (Bean, p. 86).

Despite his strong tastes which ran counter to the trend in shaped-note compilations, he seems to have influenced Carden because the Missouri Harmony will contain 37 of these slow and solemn pieces and the opening and closing sections of the prefaces of Flint and Carden are identical.

Bean (p. 111) says that Flint may be the "amateur" who is so named as the compiler of the 1835 supplement to the Missouri Harmony.

It seems that the Morgan firm, who will publish Missouri Harmony, will hire the printers Phillips and Reynolds, and will purchase the copyright and fonts from Carden. Later Phillips and Reynolds will form their own firm and publish the 1844 Missouri Harmony (Bean, p. 80).

1820

Allen D. Carden. The Missouri Harmony. Cincinnati: Printed by Morgan, Lodge, & Co., for Allen D. Carden. 1820. 200 pp. DLC, Ladies Hermitage Association (Tennessee), 2 copies, MB, MoSHi, MoKU (Z-collection), Pvt. cy.

The Missouri Harmony has been the subject of extensive dissertations by Bean and Crouse and has received extensive treatment by Krohn in Missouri Music. Much of the data about the various issues comes from Krohn.

The title Missouri Harmony probably indicates Carden's attempt to capitalize on the westward movement. He probably proposed this compilation for his "School for teaching the theory and practice of vocal music" advertised in the Missouri Gazette, 31 May 1820 (St. Louis). Probably the lack of a sufficient Protestant market made the St. Louis attempt unrewarding (Crouse, p. 34). An advertisement in the Missouri Gazette of 27 December 1817 for the Columbian Harmonist is cited by Krohn (p. 189). Carden may have had singing school competition from S. Willison (Krohn, p. 191). At any rate, he went to Tennessee where he lived the rest of his life as a successful businessman in many fields. The publication of Missouri Harmony continued to about 1858 but after the first printing the listing of "St. Louis" on the title page is replaced by "Cincinnati."

The printing of a tune was across the top of one page and was continued to the top of the facing page, then if more space was needed the tune was continued at the bottom of the first page. When a tune was continued, there was no clef or key signature on the continuation staves.

According to Jackson (White Spirituals, p. 40) Carden acknowledges the ideas in Wyeth's Repository II (1813) as a basis for his presentation of the rudiments. The explanation of the transportation of the scale by 4th and 5th is identical to Wyeth (Perrin, p. 40). Carden also uses 43 of Wyeth's 148 tunes, 41 of Chapin's 73 tunes (The Musical Instructor), and 88 of 213 tunes in Lewis' Beauties of Harmony (Krohn, p. 193).

The pendulum lengths are rarely cited after 1808 (Crouse, p. 109) but Carden does cite them;

however, their lengths do not compare to Billings', which had been the standard (Bean, p. 186).

There are few things new regarding either the tunes or the rudiments. The counter-tenor may use either the F or G "Cliffs" beginning with the 1835 edition (Bean, p. 192) and there is an occasional alto part written in the F clef (Bean, p. 210).

There is a trend toward "northernizing" in subsequent editions. This is mostly in the materials contained in the supplements, however the influence of the book is in the south. Joe S. James in Brief History of the Sacred Harp mentions that Missouri Harmony was in use in Georgia in the 1830's and in Mississippi in the 1840's (cited by Krohn, p. 196). Tunes and materials in Moore's Columbian Harmony, 1825, are largely from Missouri Harmony (Jackson, White Spirituals, 1846).

Of the 200 pages in the first edition, only 195 are numbered. Two tunes are in two-part setting, 185 are in three-part, and 149 are in four-part.

There will be 18 more editions or printings with gradual changes toward more European content in musical taste.

### 1820

Ananias Davisson. Supplement to the Kentucky Harmony. Harrisonburg, Va.: Printed by the author, 1820, n.p. (no pagination). NNUP, ViHarEm.

The rudiments are contained on five pages and there are "117 new songs for Methodists" (Jackson, White Spirituals, p. 31). It is not oriented toward singing schools (Eskew, p. 44) but toward the south with more folk-hymns and fewer tunes of a New England character. New songs are by White and Davisson with evidence of input from Wyeth, Carrell, and Dare.

BEST COPY AVAI

________ . . . Edition 3. by A. Davisson, A.K.H. (author of Kentucky Harmony). Printed at Mt. Vernon, Va. (cited by Jackson), 1826. (Jackson cites 1826.) n.p. CLU, DNC, MH, NHi, NNUT, NcWsM, TU, TKL (2 copies), V, ViHarEm.

According to Harley (p. 30) the third edition has more of a southern harmonic tradition. This will influence Moore's Columbian Harmony, 1825, in stressing the inutility of accidental and ornaments (Jackson, White Spirituals, p. 46) and Caldwell will copy tunes for his 1837 Union Harmony.

1821

Ananias Davisson. An Introduction to Sacred Music. Harrisonburg, Va.: Printed by the author, 1821. 40 pp.

This is for three voices, treble, tenor and bass, and is aimed at "young" scholars. He simply removed the alto part from 49 tunes from other of his compilations without regard for damage to the harmonic effect (Harley, p. 32).

1822

The Methodist Harmonist. New York: Printed by N. Bangs and T. Mason, for the Methodist Episcopal Church, 1822. n.p.

The significance of this is that a committee of a church body selected the tunes. The trend toward European type of hymn composition is evident.

________ . . . Printed by J. Collard, for B. Waugh and T. Mason, under the auspices of the Methodist Episcopal Church, 1833. 362 pp. DLC, KBB.

This is an enlarged edition and most of the fuging tunes have been omitted because of opposition by some Methodists. The three pages of rudiments are similar to the 1817 *New Brunswick Collection* (Loessel, p. 160).

Stephen St. John. *American Harmonist*. Harrisburg: Printed by William Greer, 1821. n.p. ICN.

On Perrin list and cited by Loessel (pp. 52 and 98) as the first shaped-note compiler to mention concords and discords. There are eight pages of rudiments.

### 1822

Seth Ely. *Sacred Music*. Cincinnati: Morgan, Lodge & Co., 1822. n.p. OC-Rare Books Division.

The theoretical introduction is a condensation of J. S. Callcott's *Musical Grammar*. This is significant because a shaped-note compiler has included all the major and minor scales (Perrin, p. 41). In his introduction he gives a strong defense of the shaped-notes (*me*, *faw*, *sol*, *law*) rebuking criticism of the notes rather than of lazy singers who use them. He goes on to say that after a time the students should be taught the letters used to name the notes, too. Bean (pp. 90-93) elaborates on this.

### 1825

William Moore. *Columbian Harmony*. Cincinnati: Printed by Morgan, Lodge, and Fisher, 1825. 198 pp. OC-Rare Books Division (Located per Bean, p. 92), UCLA (M 2117 M 78 c).

This is of significance because the book seems to have been used in middle and west Tennessee. Moore, of Wilson County, Tennessee, registered the copyright in the District of West Tennessee April 2, 1825. He declares he followed Davisson heartily, especially in tossing out as useless the accidentals, the hold, staccato, direct, and counter clef. The tunes are largely from Carden and Davisson (Jackson, White Spirituals, pp. 44, 46).

Ananias Davisson. A Small Collection of Sacred Music. Harrisburg, Va.: Printed by the compiler for Stephen D. Puller, July 1825. 64p. ICN.

There are 61 tunes, of which 50 are in three voices. The six-page introduction was adapted from the Kentucky Harmony. There is a preponderance of northern tunes, perhaps meant for a different public. The volume is small in physical size. This resembles Davisson's Introduction to Sacred Music, 1821, in size and content (Harley, p. 33).

__________ . . . Mount Vernon, Rockingham County, Va.: Printed by the Author where he now resides, 1826, 64p. NNUT, ViHarR.

An authorized facsimilie of the book has been printed by University Microfilms: International, Ann Arbor, 1978. The tunes are taken chiefly from the Kentucky Harmony and Supplement. Thirty of the tunes are in three-part and do not come from Kentucky Harmony and the three-part setting was achieved by removing the alto part from the Kentucky Harmony four-part settings. The harmonic values are destroyed and the momentum of the few fuging tunes is destroyed. Further, all instructions as "Flat key of" are eliminated, leaving the singer to figure out whether the work is in major or minor. Since there are no accidentals except in the key signature, this became a challenge. Misspelling of tune titles is common and even the wrong titles are assigned certain tunes. The index seems to be correct. There are five four-part tunes. Many of the tunes have more stanzas of text than Kentucky Harmony which indicates congregational use.

1829

Allen D. Carden. United States Harmony. Nashville: Printed by John S. Simpson, for self, 1829, 176 p. T, UCLA (M 2121 C 17 7).

There are some four-part and some three-part settings. The significance, perhaps, is that at times the tune is placed at the top in highness of pitch with the other voices sounding below the melody, both in three and four-part voicings. The tenor voice line is moved from the inner part to top stave at times. (Cited by Crouse, p. 100, who examined the Tennessee State Library copy and printed the facsimilie of the title page on page 97 of the dissertation.)

John Cole. Union Harmony, or Music Made Easy. Baltimore: Printed by William and Joseph Neal & Jess Cole, 1829. n.p. DLC. ICN.

John Cole was a pupil of Ishmael Spicer of Baltimore singing schools and by 1802 was himself a singing school teacher using chiefly round notes. He apparently was of influence in the towns around Baltimore (Fisher, p. 216). Cole tended to feel the characteristic styles in the tune books to be of poor taste (for example, the fuging tune, parallelism, the folk-hymn, etc.). He published at least 13 tune books between 1800 and 1842 (Fisher, p. 221). It is not certain that this is the same Cole, however it would seem that he might publish at least one compilation of shaped-notes just to keep the "good literature" before the rural public. Baltimore introduced music in the public schools in 1843 and the shaped-note style of music gradually became an adult, rural activity in that area (Fisher, p. 222).

The compilation had the four shaped-notes of Little and Smith but the hand was used to learn the names of spaces and lines in the G and F clefs. There are six pages of rudiments. Loessel examines this compilation on page 98 of his dissertation.

## 1831

David L. Clayton and James P. Carrell. Virginia Harmony. Winchester, Va: Printed by Samuel H. Davis. 1831. 167 p. DLC, NcD, Vi, ViU.

The preface contains statements regarding the necessity to upgrade music. Songs are reprinted per se from Songs of Zion, 1820 (Jackson, White Spirituals, p. 35) and they are less rural than those of most contemporary compilers. Sixty-five tunes appearing in Virginia Harmony had been published by Davisson (Carrell had been a collaborator with Davisson) but only two were composed by Davisson (Jackson, p. 36). Seventy-five of the Virginia Harmony tunes will be used by Funk in Genuine Church Music, 1832 (Eskew, p. 106.

The compilers comment in the introduction that four character solemnization is an unnecessary step in the way of getting to European notation (Perrin, p. 41). On page ii, the compilers are "of the belief that four shape use was an intermediate step toward learning European notation, or it was for those people who would never learn to read round notes because of lack of time, interest, or instruction."

According to Eskew (p. 111) this is probably the first shaped-note compilation to use the tune "Amazing Grace." It appears as "Harmony Grove" on page 19.

The rudiments make mention of the term "Patent Notes," and the ease of learning them.

## 1833

Henry C. Eyer. Union Choral Harmonist, or Union Choral Harmony, or Union Choral Harmonie. n.p. n.d.

________ . . . Edition 10 . . . .1839. DLC.

Loessel (pp. 185-188) shows the introduction of instrumental parts to accompany the vocal parts (facsimilie from DLC copy) with the instrumental parts shown in round notes and the vocal parts in the four-shaped notes.

### 1834

James H. Hickok and George F. Fleming. *Evangelical Musick*. Pittsburg: Printed by G. Fleming for the authors of Carlisle, 1834. n.p. DLC.

This compilation has 23 pages of rudiments of which the last eight are in round notes. The tunes are also printed some in shaped notes and some in round notes and this, plus the syllabic changes, probably marks the trend toward exclusive use of round notes. The rudiments give the four shapes of Little and Smith, the names of the notes and seven syllables, *fa*, *sol*, *la*, *ma*, *ro*, *na*, and *mi*. The *ma*, *ro*, *na* source is unknown (Loessel, p. 209) but is similar to those of Adgate. The beat of triple time is similar to present conducting patterns and some of the time moods are expressed in numerical notation, C = 2/2 for example, and music is divided into two parts, *melody* and *harmony*. The latter is a break from the ordered science of rudiments of music. A new approach aesthetically can be sensed. The melody goes to the sopranos and the part is called *first trebel* but is still printed on the third stave. Instrumental parts are inserted in round notes and do not just accompany but have separate melodic and harmonic functions. Loessel treats this compilation in detail (pp. 208-213) and includes facsimilies from the DLC copy. The instrumental parts are called "symphony."

### 1835

Timothy B. Mason [and Lowell Mason]. *Ohio Sacred Harp*. Cincinnati. [1835, possible 1834]. n.p.

This appears in the Perrin dissertation and on the Jackson list (White Spirituals, p. 25). It is called the first edition of Masons' Sacred Harp by Loessel (p. 202). There is a 20-page introduction which includes the four shaped-notes with seven solmization syllables, however the learner is encouraged to disregard the shape of the syllables. Subsequent editions are printed in both round and shaped notes (Jackson, p. 17).

Lowell Mason and Timothy B. Mason. Masons' Sacred Harp or Eclectic Harmony. Cincinnati: Published by Truman and Smith, /1835, possibly 1834/. n.p. ICN.

In general, the Masons divide music into rhythm, melody, and dynamics. They use American terms for note values, as whole note (Perrin, p. 70). From here on out, mostly modern time-beating patterns are used (Perrin, p. 78). The moods or modes of time are replaced by double measures (2/4 and 2/2), triple measures (3/2, 3/4, and 3/8), quadruple measures (4/4, 4/2, and 4/8), and sextuple measures (6/4 and 6/8). (Cited by Loessel, p. 205).

________. . . . New Edition . . . . 1836. 232 p. Private Cy.

It is uncertain how many editions there are; Groves "American Supplement" states 18. However, Perrin (p. 43) says that shaped-note printings are found through at least 1846. The later editions contain a question and answer review session after each section of the rudiments, a practice which will be common hereafter, especially in compilations of seven-shaped notes.

William Walker. The Southern Harmony, and Musical Companion. New Haven, Conn: Printed by Whiting, for William Walker, 1835. 232p. UCLA (M 2117 W 15 s).

The above is from the Jackson collection. Jackson (White Spirituals, p. 61) identifies an issue of 216 pages which he assumes as 1835 located at ScSp.

Walker, like his brother-in-law Benjamin Franklin White, becomes a legend when he uses his personality to organize and perpetuate societies devoted to shaped-note singing.

### 1836

John W. Steffey. *The Valley Harmonist*. Winchester, Va: Printed by J. W. Hollis, 1836. 167 p. IcN. ViU.

In the first edition Steffey follows Davisson's practice of omitting accidentals other than in key signatures. His book contains eight pages of rudiments and 46% of his tunes are folk-hymns which is more than his contemporaries publish in the Shenandoah Valley (Eskey, pp. 119-120). The tunes are in three-part settings with the textual sources not given (Eskew, p. 117).

________ . . . . *Edition 2*. Harrisonburg, Va: Printed by Henry T. Wartmann, 1845. 336 p. ICN. NcWsM, ViHarEm, ViHarR, ViHarT, ViHi, ViU.

The second edition is much larger and the use of accidentals is adopted, along with a question and answer method in the rudiments (Eskew, p. 121). Two William Walker tunes are used and of the additional materials only 11% are folk-hymns. Significant is the introduction of the music on *two-line staff*, which appears in exercises for tuning the voice (Eskew, p. 116).

### 1837

William Caldwell. *Union Harmony or Family Musician*. Maryville, Tn: Printed by F. A. Parham, 1837. 151 p. UCLA (M 2117 C 12u).

This is very close to Davisson's *Kentucky Harmony*. Sixty-three of the 145 tunes in this compilation are taken directly from the Davisson book and Caldwell claimed authorship of many tunes, which meant he simply supplied new harmonic settings. One of these was "Amazing Grace." He also took four tunes from *Supplement to the Kentucky Harmony*, and in turn much of his material was then used bodily by Jackson in *Knoxville Harmony*, 1838 (Jackson, *White Spirituals*, pp. 49-53). Caldwell had been a singing school teacher for about 15 years when *Union Harmony* came out. He had a few unusual terms which resulted either from misprints or his own inventiveness; for example, the *crotchet rest* which is notated --/-- and called a *suttlon* or *sutton* (Jackson, pp. 49, 50).

### *1838*

John B. Jackson. *Knoxville Harmony*. Madisonville, Tn: Printed by A. W. Elder, for D. & M. Shields and the Author, 1838. 200p. UCLA (M 2117 J13k).

Seventy-five of the tunes are found in Caldwell's *Union Harmony*, 54 can be traced to Davisson compilations and 42 are found in both *Union Harmony* and *Kentucky Harmony*. There are 33 tunes in *5-tone scales* (Jackson's term) and a number of popular tunes with sacred texts, such tunes being "Home Sweet Home" and "Turkey in the Straw" (Jackson, *White Spirituals*, pp. 53-54).

B. F. White and E. J. King. *The Sacred Harp*. Printed and bound in Philadelphia, for the authors, of Hamilton, Ga., 1844. 262p.

*The Sacred Harp* represents a *class* different from any of the other four shaped-note compilations. It is used by people who preserve and protect this system from any outside influence toward change. It is not only a closed musical system and body of literature, it is a closed standard of performance.

Benjamin Franklin White was born September 20, 1800 near Spartanburg, South Carolina. He shared his musical experiences with his brother-in-law, William Walker (they had married sisters). Legend has it they co-authored Southern Harmony and Walker went north to have it published but used only his name, hence estrangement. Not long after the publication of Southern Harmony in 1835, White moved to Harris County, Georgia, where he edited the local newspaper, The Organ, and in which he published, one by one, the tunes that were to appear in Sacred Harp. (Source: Joe S. James, A Brief History of the Sacred Harp, 1904, pp. 28-30.)

There is not much known about E. J. King. An E. L. King is listed among a revision committee, but James feels this is an error and that it should be E. J. Apparently, King's contribution was mainly one of composer-arranger and White generously listed him as co-compiler (Ellington, p. 38).

The popularity was not in the material as it was not that different from other compilations. Perhaps the success was in that the "sing" had become a type of worship in itself and B. F. White was adept at getting the book marketed (Ellington, p. 39). Ellington devotes part of Chapter IV of his dissertation to this theory.

White had to get his book adopted by the singing school teacher. Also, since community sings diminished in frequency after a singing school, he organized a "convention," with chairmen, that met regularly (Ellington cites James, p. 39). He organized the "Southern Music Convention" in 1845 with the first session in Huntsville, Georgia. This became the parent convention and White wrote the rules and prescribed the use of Sacred Harp. From 1845 to 1867 White was in control, but in 1868 E. T. Pound, a member of the committee of the Southern Musical Convention and himself a compiler, advocated the use of other books. There was a split (Ellington, p. 42).

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The *Sacred Harp* users of the Southern Music Convention went to the Chattahoochie Music Convention, which had been organized in Georgia in 1851 first meeting 1852 and had been staunch defenders of the *Sacred Harp* (Ellington cites: Earl V. Thurman, *The Chattahoochie Musical Convention 1852-1952*, East Point, Ga., by Author, 1952, p. 4).

The rudiments are in the same order as those in Walker's *Southern Harmony* and Carder's *Missouri Harmony* (Ellington, p. 24). White abolishes some moods and increases time (in seconds) for performances. The harmonic preference was root in I and V. The voicings are in three-part more than four-part in 1844, but will increase to by and large all four-part in the 20th century revisions. There are four *concords*, the unison, 3rd, 5th, and 6th. The tenor is frequently paralleled in 3rds, 4ths, or 5ths. The remaining parts were usually rhythmically in unisom with the tenor but in contrary motion. There are numerous parallels in 4ths, 5ths, and octaves. Voices are crossed at will. There is no appropriate place designated for the opening or closing of chordal sequences. Whether it was done at all does not become known until there are cadential spaces, and even then it may have been by accident. The tunes are based on melodies and melodic fragments which were a part of a Celtic background: modes, incomplete use of major and minor, and parallelism of parts. The texts reflected a theology of dissenting hymn writers, i.e. Watts. "Gapped scales," diatonic scales with the 4th and 7th omitted if major and the 2nd and 6th omitted if minor occur, and in minor most leading tones were not raised but are automatically supplied by the singer. (These data are from Ellington, pp. 51 through 66.) Various editions, reprints and revisions continue to today.

### 1846

George Hood. *Southern Church Melodist, or Southern Melodist.* Philadelphia: Published by Hagan and Thompson, 1846. n.p. DLC, ICN.

According to Metcalf (p. 245) Hood (1807-1882) was an early historian of American sacred music. He published both shaped notes and a figured bass. *The Southern Melodist* (title cited by Jackson and Metcalf) was a single musical publication by Hood. Perrin (p. 71) cites Hood's use of American terms for note lengths as *whole*, *half*, etc., and Perrin and Loessel (p. 99) cite the title as *Southern Church Melodist*. There are 19 pages of rudiments and the use of the compilation probably excluded the South (Loessel, pp. 207, 223).

### 1849

Charles Dingley. *Devotional Harmonist*. New York: Published by George Land and Levi Scott for the Methodist Episcopal Church, in regular and shaped-note editions, 1849. n.p. DLC.

The preface cites the need for a greater number of metres. A committee assigned compilation to "C. Dingley, Esq." The section of rudiments is 18 pages long and has a question-answer unit after each part, yet seems disjointed. The rudiments use both *fa*, *sol*, *la*, *mi* and *do*, *re*, *mi*, *fa*, *sol*, *la*, *si*. The DLC copy has a property stamp which indicates use by a church in New York. (These data are cited by Loessel 207, 224 and 225). Perrin (p. 71) cites the use of American terms for the length of notes as *whole*, *half*, etc.

### 1850

Charles Warren. *Missouri Harmony, Revised and Enlarged*. Cincinnati: Printer not indicated, Published by William Phillips & Co., Stereotyped by E. Morgan & Co., 1850, 270 p. DLC, ICN, ICU, CU, MoSHi, UCLA (M2117 c17w), Private Cys (2).

This is a revision of Carden's *Missouri Harmony*. Bean (p. 111) calls this the ninth edition. There was a new copyright granted 12 July 1850. The preface was wholly re-written. The alto or C clef was abandoned and all treble parts were printed in the G clef. There was a new order of vocal parts with the top (tenor) stave containing the melody, then alto, treble, and bass. The printing of the F clef sign was changed. The harmony moves in block fashion and this is achieved by re-writing the melodic movement of parts other than the tune to make them less melodic and to remove voice crossing. Some pick-up notes are reversed. The pages being longer, tunes are printed on the same page where possible rather than going across paired printings. (These items are cited by Crouse, pages 82 through 85.) The Bean dissertation makes many comparisons, using facsimilie photos from the 1850 and earlier editions.

## Highlights of the Enterprise of the Seven-Shaped System

### 1807

Andrew Law. The Art of Singing.

The curious combinations of the publications of Andrew Law are explained in detail in the section on four-shaped notes. The Art of Singing had three parts: I. Musical Primer, which later had a Supplement; II. Christian Harmony, which had Volume I and Volume II, and was later replaced by the Harmonic Companion; and III. Musical Magazine which had Parts 1, 2, 3, 4, 5, and 6. These appeared in various combinations; sometimes dates were included in the title page, sometimes not.

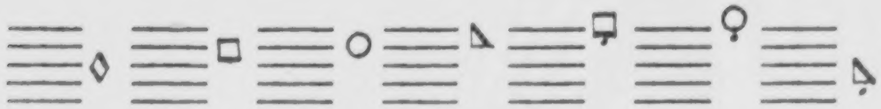
________. Musical Primer: Philadelphia: Printed by Anderson & Meehan. n.d. 16 p. MWA (Shaw-Shoemaker 23192), MiD-B.

The Law seven shaped-note system is as follows:

Faw □, Sol ○, Law ◺, Faw □̇, Sol ○́, Law ◺̇, and Mi ◊ .

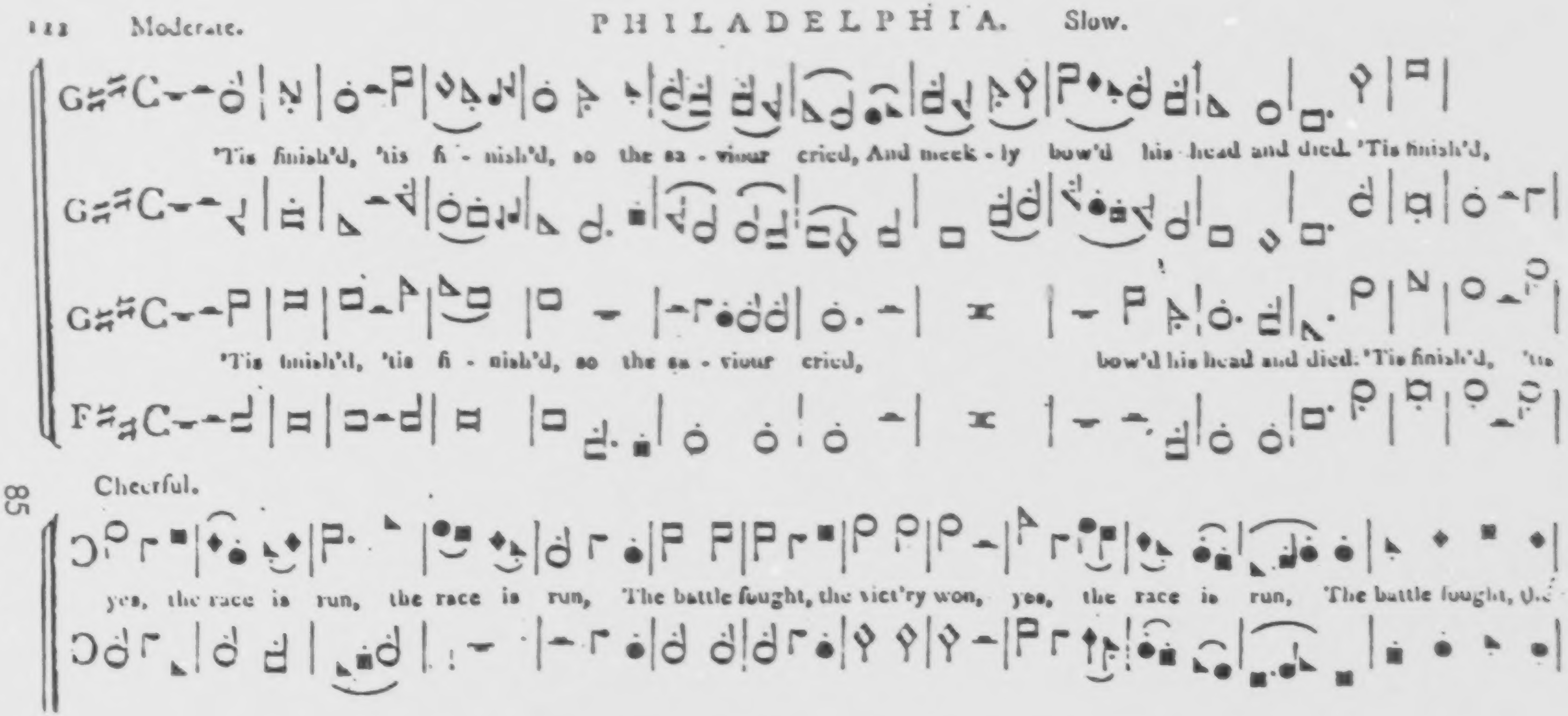
There were no staffs used and only four syllables. The dot would be placed under the note if descending. He is probably the first to publish seven shapes as a system. Since there was no staff it is easiest to illustrate the system by showing a facsimilie from Law on the following page.

The Supplement to the Musical Primer introduces a ledger line beside the seven shapes while defending the use of no lines. The following is a representation. Note that the lines do not run through the note, only beside it. The second ledger line is G. With the ledger lines it is not necessary to place dots above or below notes to indicate ascending or descending action.



______. The Art of Playing the Organ and Pianoforte. Philadelphia: Printed by Jane Aitken for the author, n.d. 8 p. MWA (Shaw-Shoemaker 20529, 17900 q.v.).

This contains no music but does propose a seven-shaped note system without staff for instrumental music. There is not much difference in this and the other seven shaped system of Law except that the instructions show the shapes in relation to a keyboard. The date of this is estimated at 1810.


122 Moderate.
PHILADELPHIA.
Slow.
'Tis finish'd, 'tis fi - nish'd, so the sa - viour cried, And meek - ly bow'd his head and died. 'Tis finish'd,
'Tis finish'd, 'tis fi - nish'd, so the sa - viour cried, bow'd his head and died. 'Tis finish'd, 'tis
Cheerful.
yes, the race is run, the race is run, The battle fought, the vict'ry won, yes, the race is run, The battle fought, the

The Law Seven Shaped-Note System. from Law, Andrew, Musical Magazine, Number Second, Philadelphia, printed by Jane Aitken, n.d., p. 122

### 1822

In Paris Mons. Jeu de Berneval, a pupil of Gali used figures to designate the seven degrees and introduced what he called *monogamic* signs. This is per W. E. Hickson, cited by Perrin (p. 14) and see also F. H. Gibson, *The History of Shaped or Character Notes*, Boston, F. H. Gibson Co., 1889. This is not used in American compilations.

*do* □ *re* ☾ *mi* ◇ *fa* ▽ *so* ◇ *la* ⊖ *si* △

### 1830

*Norristown New and Much Improved Musical Teacher or Repository of Sacred Harmony*. Norristown, Pa: Printed by D. Sower, Jr., 1830. n.p. DLC.

The compiler is unknown but there is reference to "By a Professor of Music." The preface also contains a brief history of notational changes which refers to the four-shaped systems as "absurd" in that it is too easy and one would never learn the *gamut* (Loessel, p. 263).

The notation principles are derived from both Little and Smith and Law in deriving the shapes, but the *w* is left off the syllable names as being softer and adaptable to more genteel and graceful singing (cited by Loessel, p. 262). Perrin cites the syllables with the *w* in his dissertation but removes them in his article, "Systems of Scale Notation," (p. 258). There is an unusual system for notating rests with symbols that resemble notes and have stems which produces confusion with notes. Tempo markings are given as 4/60 which means four quarter notes in a measure at a rate of 60 quarter notes per minute. Likewise there is 2/48, 3/90, etc.

The system of shapes and symbols:

*fa* ◥ *sol* ○ *la* □ *se* ◤ *lo* ȯ *sa* or *sal* ▭ *me* ◇
*fa* ◣

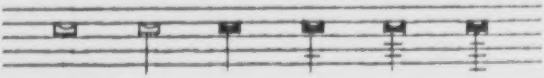
But there are six other sets of syllables for the same shapes which are for various purposes. The compilers call this "syllabication" and this unique system is cited in detail by Loessel (p. 264) who provides a facsimilie from the DLC copy (p. 261).

The other sets of syllables are:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| fa | la | sa | le | so | la | me | fa |
| fa** | sol | la | le | lo | sa | me | fa |
| fa | so | sa | le | sol | la | me | fa |
| fa | sol | la | ba | do | na | me | fa |
| do | re | me | fa | sol | la | si | do |
| fa | sol | la | fa | sol | la | mi | fa |

*To be applied to ascending and descending the scale.
**Best in reading tunes.

The time value system for rests is as follows:



From page 18 in the compilation (cited by Loessel, p. 265).

1846

Jesse B. Aikin. The Christian Minstrel. Philadelphia: Printed by T. K. and P. G. Collins, Stereotyped by L. Johnson & Company, 1846. n.p. DLC.

This seven-note system remains in use and is the most common of all the shaped-note characters:

doe △ ray ◡ mi ◊ faw ◺ sol ○ law □ see ▽

Aiken also presented syllables for accidentals:

doe △ dee ♯△ ray ◡ ree ♯◡ mee ◊ faw ◺ fee ♯◺

sole ○ se ♯○ law □ lee ♯□ see ▽ doe △

There was a dispute over ownership of a seven shaped-note system between Aikin and Alexander Auld (see 1847); however, the Aikin system remained the most copied. Aiken threatened the Funk people in 1877 with suit and the Funks stopped printing using the Aikin characters (Jackson, *White Spirituals*, pp. 352-353).

Aikin used only 2/2, 3/2 and 6/4 (Perrin, p. 85); he excluded the minor scale stating the natural minor scale does as well (Loessel, p. 270). The use of only three time indicators and one scale for all minor was logical simplification to Aikin who said it all sounded the same to the ear. The pitches of G and g appear as the middle line (3rd lines) of the bass and treble staffs respectively since that pitch seems to be the middle of the voice range. It also makes reading of either clef by anyone possible and makes it simple to adapt instruments to the music. Therefore, the key signature is eliminated since it's only relative. At the start of a tune the key is indicated as "Key of F," etc. Finally the aesthetic notion creeps in as music is divided into *pitch*, *length*, and *force*.

This is the outset of a new system as by this time the four-shaped notation is being forced to succumb to pressures to modernize and the seven-shaped system seems a part of the solution.

There seem to have been many editions published from Philadelphia, New York, Boston, Wheeling, Cincinnati, Lexington, and Columbia.

### 1847

Alexander Auld. *Ohio Harmonist*. Cincinnati: Printed by J. A. and V. P. James, for Alexander

Auld and Joshua Maetin, 1847, n.p. DLC.

The compilation has three parts and while all three parts use the seven shaped-note system of Auld, parts one and three use seven syllables and part two uses four syllables. Auld claimed priority over Aikin in inventing a seven shaped-note system. He claimed his invention dated from 25 December 1835 and was introduced into his classes and approved by most (Jackson, *White Spirituals*, p. 337).

Auld laments singing in churches being left up to the choir and feels that there should be congregational input in the singing. He is very definite that non-Christians should get out of the choir.

The Ault shaped-notes are:

*doe* D *ray* ◁ *mee* ◊ *faw* ◣ *sol* ○ *law* □ *see* ⊏

He claims ownership of the terms *doe*, *ray* and *see*.

### 1848

W. H. Swan and M. L. Swan. *Harp of Columbia*. Knoxville, 1848. n.p.

This appears in the Perrin dissertation and in Jackson's list of seven-shaped compilations (*White Spirituals*, p. 323). Woolley in the preface to the facsimilie of *Sacred Harp* calls this the first seven shaped-note book. It has, however, lasted because of its use by "Old Harp Singers" who hold periodic singing conventions in the East Tennessee area.

The Swan shaped-note system is:

*do* ⧗ *ra* D *mi* ◊ *fa* ▷ *sol* ○ *la* □ *si* △

This is in use today by "Old Harp Singers."

### 1851

Joseph Funk and Sons. *Harmonia Sacra, Edition 5* (a seven shaped-note continuation of the four shaped-note *Genuine Church Music*). Mountain Valley: Printed by Solomon Funk, for the Authors, 1851. 322 p. ViHarEm, ViHi, ViU, Private Cy.

The Funk shaped-note system is:

*do* ◖ *re* ◁ *me* ◇ *fa* ◺ *sol* ○ *la* □ *si* ▭

### 1853

T. K. Collins, Jr. *Timbrel of Zion*. Philadelphia: Printed by T. K. and T. G. Collins, for T. K. Collins, Jr., 1853. n.p. DLC.

The shaped notes are those of Aikin's *Christian Minstrel*, 1846, but the rudiments, though similar, do not have a question-answer section. In the 12-page rudiment section, Collins describes his method as "inductive," therefore "progressive." He converts the four-part fuging tunes to vertical harmony so they will be in good taste for worship (Loessel, p. 294).

Jackson (*White Spirituals*, p. 323) listed the publication as 1854.

Levi C. Myers. *Manual of Sacred Music*. Mountain Valley, Va: Printed at the Office of Joseph Funk and Sons, 1853. 127 p. DLC, ViHarEm.

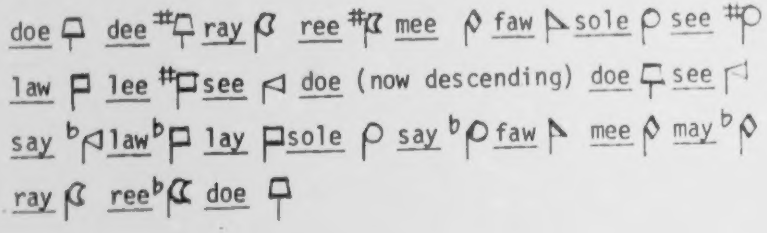
The Funk seven-shape system was used. The text sources are given. Eighty-one of the 153 tunes are published for the first time and two of those are *revival spirituals* although 20 have a a chorus which is a characteristic of the revival-type hymn. (Data cited from Eskew, p. 136.)

## 1866

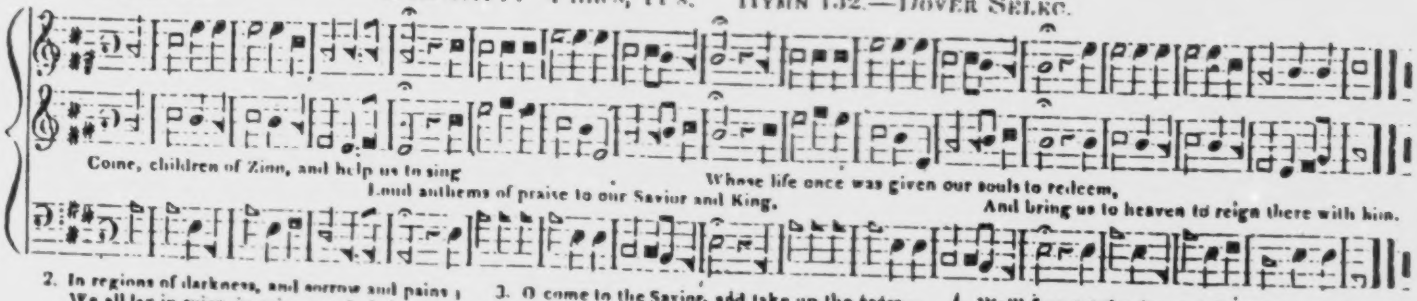
William Walker. Christian Harmony. Philadelphis: Printed for Miller's Bible and Publishing House, 1866. n.p.

At this point the use of seven shaped-note systems seems to increase (Perrin, p. 52) and the significance of this compilation is that everything is modern except the use of shaped-notes and the retention of a separate staff for each voice part. Songs by composers formerly outside the realm of shaped-note compilations, as Lowell Mason, are used. There is another factor that this compilation represents and that is the "normal school" which has by this time become an active business. In a sense, it is a singing school for singing school teachers not taught by itinerants, but taught to pupils who come to the teacher. The training is more intense and the materials more sophisticated in the European sense. This continues today in various forms.

Walker had his own shaped-note system as shown below.


doe
dee #
ray
ree #
mee
faw
sole
see #
law
lee #
see
doe
(now descending)
doe
see
say b
law b
lay
sole
say b
faw
mee
may b
ray
ree b
doe

METRE 11. WESLEY. 4 lines, 11's. HYMN 132.—DOVER SELEC.


Come, children of Zion, and help us to sing
Loud anthems of praise to our Savior and King.
Whose life once was given our souls to redeem,
And bring us to heaven to reign there with him.

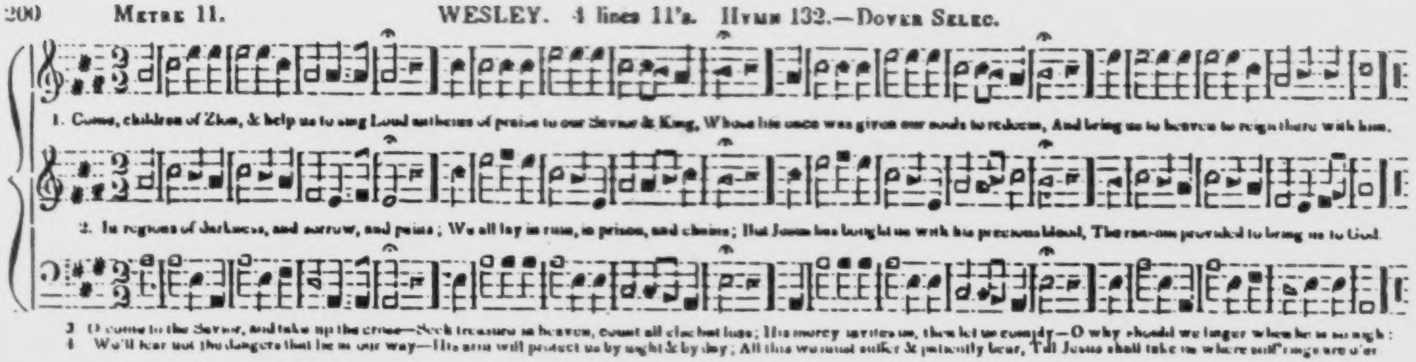
2. In regions of darkness, and sorrow and pains;
We all lay in ruins, in prison, and chains;
But Jesus has bought us with his precious blood,
The ransom provided to bring us to God.

3. O come to the Savior, and take up the cross—
Seek treasure in heaven, count all else but loss;
His mercy invites us, then let us comply—
O why should we linger when he is so nigh;

4. We'll fear not the dangers that lie in our way—
His arms will protect us by night and by day;
All this we must suffer, and patiently bear,
Till Jesus shall take us where suff'rings are o'er,

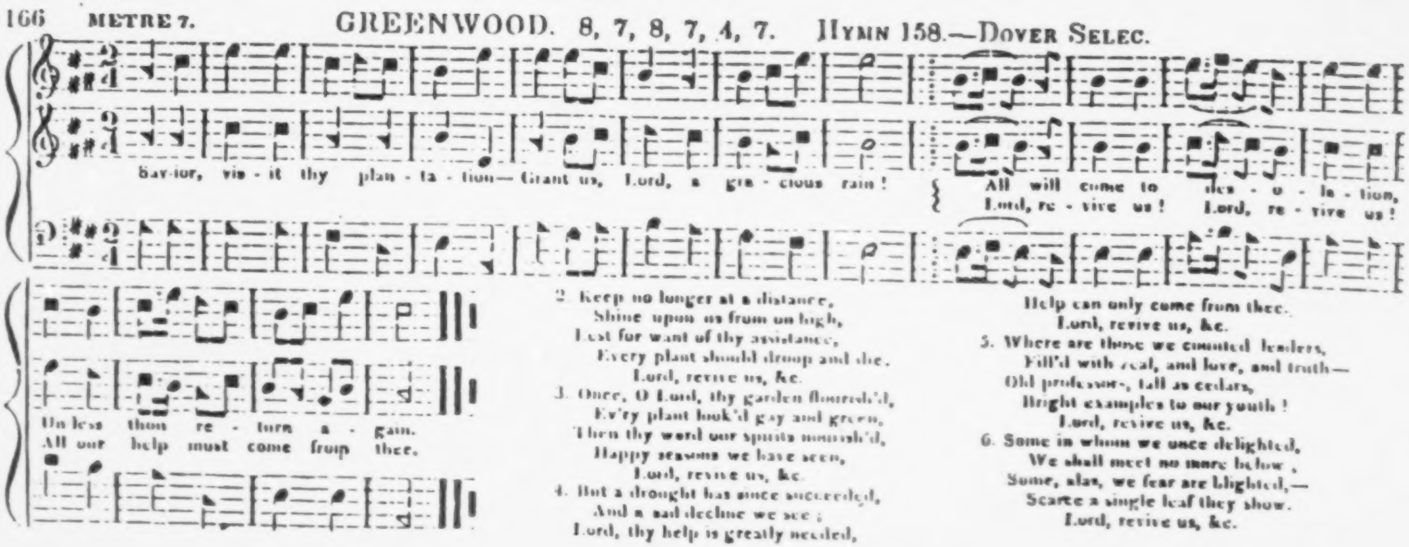
The four-shaped system of Little and Smith

from: Joseph Funk, Genuine Church Music, Edition 4.
Mountain Valley: Printed by Joseph Funk and son
Benjamin, 1847, 288 p. Courtesy of private
owner--from Funk's personal library


200 METRE 11. WESLEY. 4 lines 11's. HYMN 132.—DOVER SELEC.
1. Come, children of Zion, & help us to sing Loud anthems of praise to our Saviour & King, Whose life once was given our souls to redeem, And bring us to heaven to reign there with him.
2. In regions of darkness, and sorrow, and pains; We all lay in ruin, in prison, and chains; But Jesus has bought us with his precious blood, The ransom provided to bring us to God.
3 O come to the Saviour, and take up the cross—Seek treasure in heaven, count all else but loss; His mercy invites us, then let us comply—O why should we linger when he is so nigh:
4 We'll fear not the dangers that lie in our way—His arm will protect us by night & by day; All this we must suffer & patiently bear, Till Jesus shall take us where suff'rings are o'er

The seven-shaped system used by Funk

from: Joseph Funk and Sons, Harmonia Sacra, Edition 5.
Mountain Valley: Printed by Salomon Funk for the
Authors, 1851, 322 p. Courtesy private owner--
from Funk's personal library

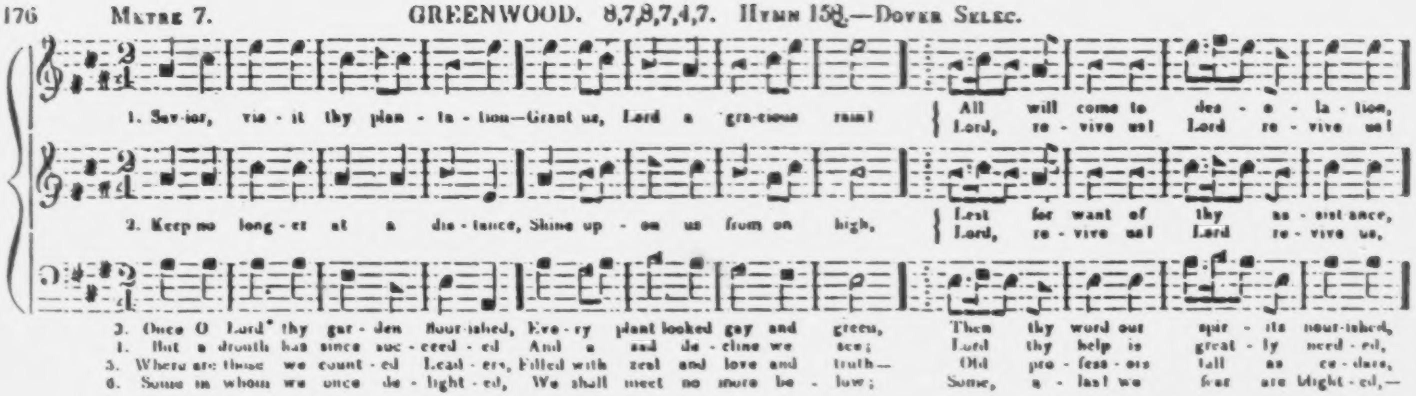

Sav-ior, vis - it thy plan - ta - tion— Grant us, Lord, a gra - cious rain!
All will come to des - o - la - tion,
Lord, re - vive us! Lord, re - vive us!
Un less thou re - turn a - gain.
All our help must come from thee.

166 METRE 7. GREENWOOD. 8, 7, 8, 7, 4, 7. HYMN 158.—DOVER SELEC.

2. Keep no longer at a distance,
Shine upon us from on high,
Lest for want of thy assistance,
Every plant should droop and die.
Lord, revive us, &c.
3. Once, O Lord, thy garden flourish'd,
Ev'ry plant look'd gay and green,
Then thy word our spirits nourish'd,
Happy seasons we have seen,
Lord, revive us, &c.
4. But a drought has since succeeded,
And a sad decline we see;
Lord, thy help is greatly needed,
Help can only come from thee.
Lord, revive us, &c.
5. Where are those we counted leaders,
Fill'd with zeal, and love, and truth—
Old professors, tall as cedars,
Bright examples to our youth!
Lord, revive us, &c.
6. Some in whom we once delighted,
We shall meet no more below,
Some, alas, we fear are blighted,—
Scarce a single leaf they show.
Lord, revive us, &c.

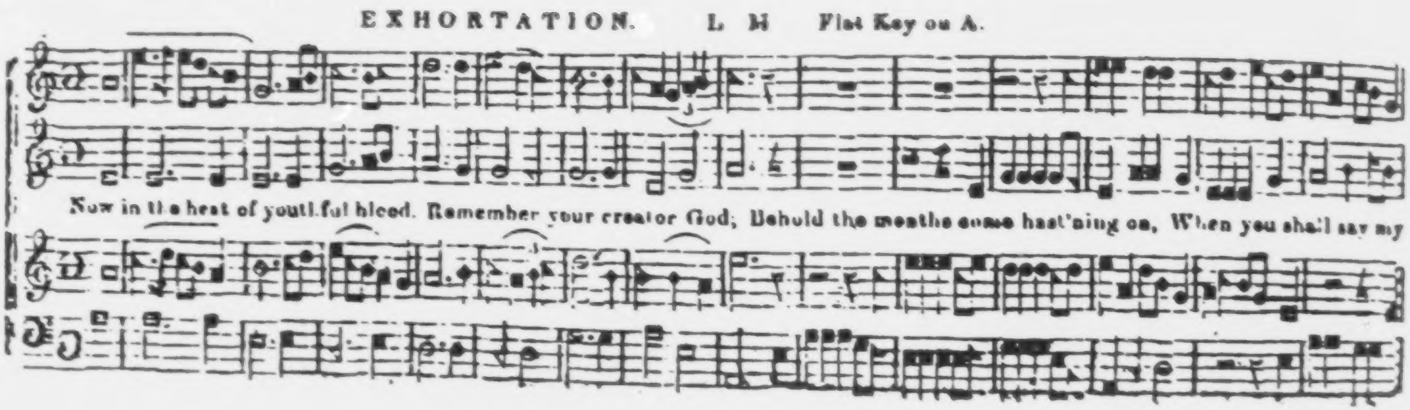
The four-shaped system of Little and Smith

from: Joseph Funk, Genuine Church Music, Edition 4.
Mountain Valley: Printed by Joseph Funk and son
Benjamin, 1847, 288 p. Courtesy of private
owner--from Funk's personal library

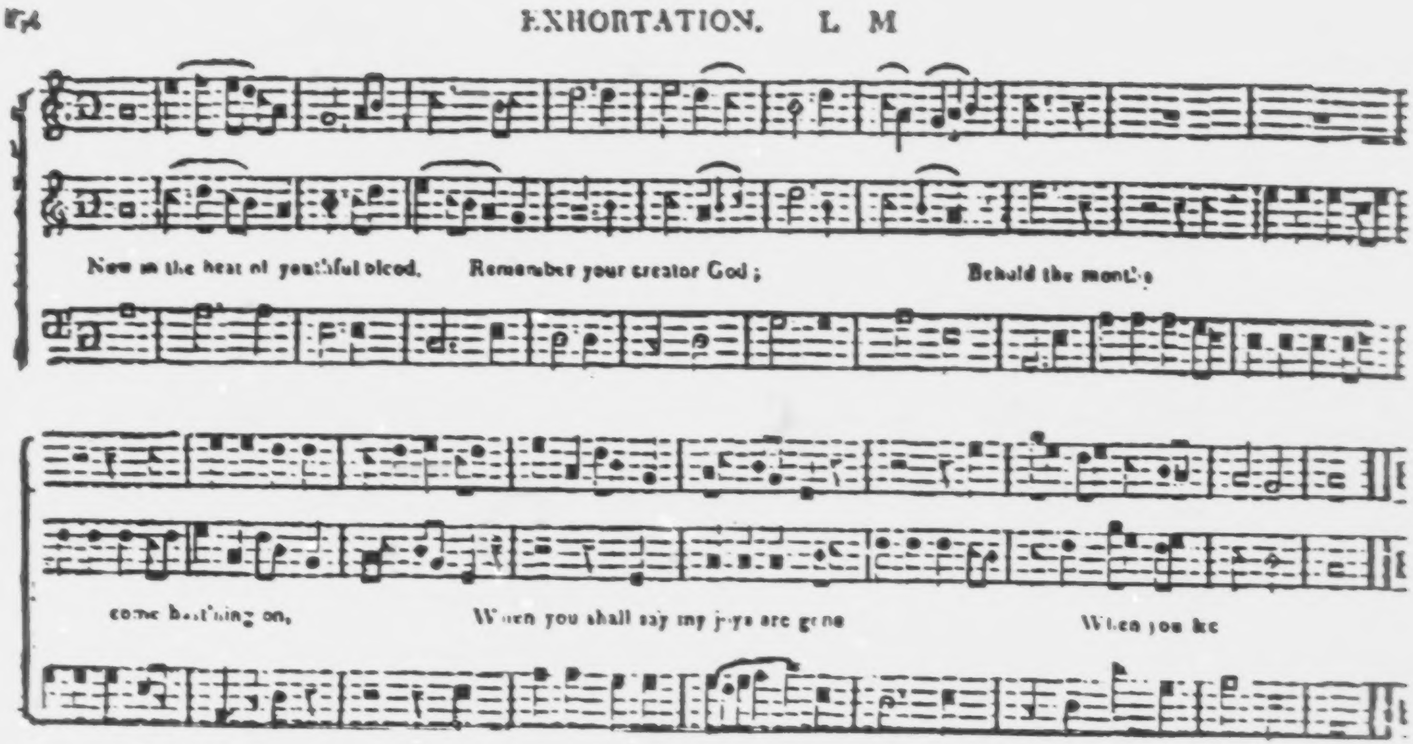

176 Metre 7. GREENWOOD. 8,7,8,7,4,7. Hymn 158.—Dover Selec.
1. Savior, visit thy plantation—Grant us, Lord a gracious rain!
All will come to desolation, Lord, revive us! Lord revive us!
2. Keep no longer at a distance, Shine upon us from on high,
Lest for want of thy assistance, Lord, revive us! Lord revive us,
3. Once O Lord thy garden flourished, Every plant looked gay and green,
Then thy word our spirits nourished,
4. But a drouth has since succeeded And a sad decline we see;
Lord thy help is greatly needed,
5. Where are those we counted Leaders, Filled with zeal and love and truth—
Old professors tall as cedars,
6. Some in whom we once delighted, We shall meet no more below;
Some, alas! we fear are blighted,—

The seven-shaped system used by Funk

from: Joseph Funk and Sons, Harmonia Sacra, Edition 5. Mountain Valley: Printed by Salomon Funk for the Authors, 1851, 322 p. Courtesy private owner-- from Funk's personal library


EXHORTATION. L M Flat Key on A.
Now in the heat of youthful blood. Remember your creator God; Behold the months come hast'ning on, When you shall say my

"Exhortation" from Kentucky Harmony by
Ananias Davisson, 1816, p. 82



176
EXHORTATION. L M
Now in the heat of youthful blood, Remember your creator God; Behold the months
come hastning on, When you shall say my joys are gone When you ke

"Exhortation" from A Small Collection of Sacred Music by Ananias Davisson, 1825. (Note: only 3-parts. Alto part is removed destroying fuging tune effect)

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# ABSTRACT

## SAMUEL COLERIDGE-TAYLOR: AN ANALYSIS OF SELECTED PIANO WORKS AND AN EXAMINATION OF HIS INFLUENCE ON BLACK AMERICAN MUSICIANS: A SOURCE BOOK FOR TEACHERS

John C. Batchman, Ed.D.
Washington University, 1977

Samuel Coleridge-Taylor is probably the first internationally known Black composer. Born in 1875 of an African father and an English mother, this Anglo-Black composer visited the United States three times before his death in 1912. Coleridge-Taylor and his visits exerted a great deal of influence on Black Americans, especially the Black musicians, which is still felt today.

Chapter one of this dissertation deals with biographical information on the composer and his two children.

The influence on Black American musicians by the composer and his visits to America are dealt with in Chapter two. His three visits are discussed in detail. This is followed by a discussion of the results of his visits.

Beginning Chapter three is an introduction to the piano works of Coleridge-Taylor, together with classifications of these compositions. The last portion of this chapter deals with the analysis of selected piano works.

Chapter four serves as a summary in which a discussion is made of the style of Coleridge-Taylor in his piano works. The last chapter contains a thematic index of most of the piano works, together with information which, hopefully, will be of help to teachers of piano. This information includes a classification of difficulty, general remarks on possible problem areas in the performance of these compositions and historical information on the composition is given when available.

## ABSTRACT

# PERSPECTIVES FOR DEVELOPING PRINCIPLES AND GUIDELINES IN THE CONSTRUCTION OF THE GENERAL MUSIC CURRICULUM FOR AMERICAN ELEMENTARY SCHOOLS: AN ECLECTIC APPROACH

Rene Boyer, Ed.D.
Washington University, 1975

The need to defend music education as a vital part of the curriculum is becoming increasingly evident to the contemporary music educator. For many years the discipline of music in education has frequently been regarded and treated as a special or extra-curricular subject and has therefore been considered by certain educators, administrators, and parents, as being superfluous in the real task of education.

In order to combat this problem the music educator must address himself, not only to the problem of defining explicitly and coherently the aims and objectives of his particular area of specialization, but also have a substantial philosophical as well as theoretical reason to serve as a basis for both his justifying the role of music in the curriculum and for developing the music education curriculum.

The achievement of these goals can best be pursued by a method which, first of all, takes into consideration the historical development of music education. It should also focus on those philosophical theories and psychological approaches to learning that have influenced the particular trends evident in that development, while paying attention to the social, political, and cultural factors that have determined its direction.

In this dissertation therefore, after surveying the major trends and directions that music education has followed until the present decade (focusing on early childhood K-6), we turn our attention

to the proposition of two rationales--adult versus child centered--which facilitate the task of presenting succinctly the numerous philosophical theories of education which can be thought of as undergirding the construction and development of curricula. We then consider Essentialism and Pragmatism as those two philosophies which best represent the polarities implied in the child versus adult duality which has been set forth.

We proceed by focusing attention on two major psychological learning theories--Associationism/ Behaviorism and Gestalt--in an attempt to determine the kinds of strategies that have been used in the execution of the music education curriculum. The treatment of such psychological learning theories is considered of particular importance because they are closely linked with the philosophical rationales that undergird curriculum development.

With the foregoing background and analyses completed, we conclude this study with the proposal of a set of eclectically developed principles and guidelines which have been arrived at as a result of our previous investigations.

The principles, which we have chosen to present as the Five C's, stress the construction of a kind of curriculum which considers the mutual development of competence in musical skills (performance, technical, and aural), of critical ability the ability to conceptualize, and creativity, which all come to fruition in a consciousness of the musical aesthetic experience. Such a curriculum is fully integrated in that it combines both the cognitive as well as the affective constituents of learning that are crucial to the total development of the individual in the educative process.

When the full import of these principles is grasped by the educator and used wisely in the development and construction of a music education curriculum, they will hopefully obviate the need for the constant movements back and forth between innovation and tradition that seems to characterize the process, not only of music education, but also of general education. This will be possible since we have attempted to combine in these principles those facets of traditional approaches, tried and true, with the characteristics of the innovative processes that are most suitably adapted to the needs of the learning community.

Finally, although the burden of the consideration of music curriculum construction is to be found in the study of the elementary years, especially in the historical section, the principles which emerge are generally applicable to grades K-14.

## ABSTRACT

## MUSIC IN CHAUCER: TROILUS AND THE DREAM POEMS

Linda C. Ferguson, D.M.A.
University of Missouri-Kansas City, 1977

The poetry of Geoffrey Chaucer (ca. 1340-1400) has long been viewed as a rich and reliable compendium of information on many subjects, including music. Both literary and music scholars acknowledge the abundance of musical allusions in Chaucer's works. For the most part, however, literary scholars have tended to dismiss musical references as conventional ornaments, and while music historians have recognized Chaucer's poetry as an available primary source of information, they have seldom considered the allusions in their poetic contexts. In this study, an attempt is made to arrive at statements regarding musical practices and attitudes in the society represented by this literature. Furthermore, the relationship of the musical allusions to their literary contexts is established.

The following poems form the basis for the project: Troilus and Criseyde, The Book of the Duchess, The House of Fame, The Parliament of Fowls,

and the Prologue to The Legend of Good Women. Because extensive prior knowledge of the poems on the part of the reader is not assumed, discussion of each poem is introduced with basic information, including date, sources, occasion, plot, themes, and general interpretations, before the musical implications are described. A systematic extraction of musical allusions was undertaken for each of the five poems. The numerous references include harps, bells, pipes, horns, trumpets, clarions, tabors, carolling, dancing, and singing, as well as explanations of music of the spheres, descriptions of music in nature, and several intercalated lyrics. Music is depicted as vital to societal functions, including worship, courtship, the military, and the hunt. Allusions are grouped to demonstrate their structural and thematic significance to the poems in which they appear; each grouping constitutes a section which focuses upon a particular aspect of music, be it an instrument, a practice, a form, or an attitude. Related sources are cited in many cases, to provide a more complete medieval frame of reference for musical aspects which are treated by Chaucer, and which carried, for Chaucer's audience, associations that are not obvious to the modern reader. Suggestions derived from earlier Chaucer commentary have been extended by means of musical research and speculation; in many cases, new proposals are offered regarding the significance and interpretation of musical allusions.

It is concluded that musical allusions establish and support many integral themes in the poems, including the ideas of consonance and dissonance in music, love, and nature; deafness to reason; mental, spiritual, and physical awakening; attainment of immortality; and the mediation and reconciliation of opposites. Moreover, music is frequently employed as a means of foretelling the future, and to support characterization.

It is summarized that Chaucerian musical allusions may be categorized under two headings: music

of the heart, and music of reason. The former delivers an emotional expression to or from a character, and is usually depicted as practical music (i.e., music literally sung, played, or danced). Music of reason, which usually involves speculative, or theoretical, music, relies upon the basic concept of proportionate relationships between numbers. Through such devices as the symbol of the harp and the intercalated lyrics, Chaucer demonstrates that music of the heart and music of reason are resolvable. Reconciliation of opposing forces is a recurrent theme; such resolutions, achieved when the elements involved conform to a prescribed order, are invariably expressed in musical terms. The idea of music provides, therefore, a philosophical key to the reconciliation of such dualities as heart vs. reason, and senses vs. intellect. Medieval music, as represented in writings, functions as an affirmation of this reconciliation and of belief in an ordered universe.

## ABSTRACT

## THE EFFECTS OF DIFFERENT FAMILIAR AND UNFAMILIAR MUSICAL TIMBRES ON MUSICAL MELODIC DICTATION

Donald Louis Gephardt, Ed.D.
Washington University, 1978

Musical timbre, which is defined as a multidimensional, psychological attribute of musical tone, often is assumed to have little or no effect on the musician's ability to perceive pitch. At the college level the music-major student is expected to attain criterion levels in skills of musical dictation, which refers to the written transcription of heard musical material. This heard material most often is presented on the piano, because of its availability in the classroom, or on a variety of sound sources in recorded, programmed formats. The question arises, does this variable sound

source have an effect on the student's ability to notate heard, melodic pitch patterns? Also, does relative familiarity with a particular sound source brought about through performance contact with that same sound source, aid the subject in these dictation tasks?

Due to the many variables present both in any musical sound source itself, as well as in modes of dictation presentation, a pilot study was carried out to determine optimum ways of "standardizing" or presenting these variables. Using the results of this pilot study, five hypotheses were formed, stated in the null form. The independent variables of differences in timbre, familiarity of timbre, envelope of the sound source, length of the melodic sequence and amount of task experience were investigated as to their possible effect on the dependent measure--a test of melodic dictation created by the author. Fifty, music-major, freshmen-sophomore subjects from three Long Island, New York colleges were grouped into five categories of like instrumentalists and tested individually in a dictation test of 140 melodic sequences of from two to six pitches in length (equal number of each length). The melodic sequences were presented in seven different timbre sources in random order: B flat trumpet, E flat alto saxophone (both steady-state envelope sources); guitar, piano (both rapid-decay envelope sources); synthesizer (saw-tooth waveform), Mixed I (each successive trial in a different timbre) and Mixed II (each successive tone in a different timbre). The synthesizer, Mixed I, and Mixed II treatments included both steady-state and rapid-decay sound envelopes. The first pitch for each sequence was given and subjects had no foreknowledge of the exact sequence length. The task involved notating each pitch past the first in "whole-note" notation. Results were reported as error means for each, individual melody length. Each treatment was assumed to be of equal "difficulty" level although the actual musical material differed.

The repeated-measures design was analyzed by the BMDP-2V computer program and the Newman-Keuls post-hoc comparisons procedure to reveal where significant results occurred. Results revealed that differences in timbre, envelope of the sound source, and length of the melodic sequence all have a significant effect on melodic dictation tasks at the .01 level. Familiarity of the timbre source was not significant, although there is a definite suggestion that familiarity with the source affected performance. Three of four groups of like instrumentalists obtained their best score on their familiar timbre. Task experience also was not significant, although sophomores (49.2 percent error) obtained slightly better scores than the freshmen (55.0 percent error).

## ABSTRACT

## AN EVALUATION OF MASSED AND DISTRIBUTED PRACTICE FOR THE TEACHING OF MELODIC REPETITION ADMINISTERED BY CLASSROOM TEACHERS AND A MUSIC SPECIALIST

Kristin K. Gerth, M.M.E.
University of Missouri-Kansas City, 1978

The problem of this study was to obtain evidence that children would achieve a higher level of competency on a music concept when practice with the concept was supplied by the classroom teacher, in addition to the regular music periods or distributed practice, than children who received practice only in the regular music class or massed practice.

The purpose of this study was to compare the achievement of second and fourth grade students who were instructed by AVII model materials during a regular music class schedule with the achievement of second and fourth grade students who were instructed with AVII model materials during the regular music class period and given additional practice

with the concept by the classroom teacher.

The study was limited to the effect of treatment on achievement of one task, melodic repetition. The classes receiving massed practice heard five to eight examples during their music class period. The classes receiving distributed practice heard three examples daily, in the music class and regular classroom.

A quasi-experimental, post-test only, repeated measures research design was used for the investigation. A criterion instrument was constructed to measure achievement.

The primary data consisted of the subject responses on the criterion measure for achievement of the musical task, melodic repetition. Amount of practice, scheduling of practice, and grade level constituted secondary data. Oneway frequency distributions and ANOVA were used for testing the hypotheses.

The findings in this study indicate that grade level effects achievement when the amount of practice is held constant. The fourth grade students achieved and maintained a higher identification level of the concept stimulus than did the students in second grade. The children who reached the mastery level on the post-test were all fourth grade students.

In this study, the amount of practice and scheduling correlated highly with the achievement on the post-test and retention test. Students receiving massed practice, exclusively within the music class, scored higher on the test than the students who were given daily, distributed practice. The presentation of eight examples during the instructional period had a greater effect on memorization and identification of the concept than did the daily practice of three items.

Subject to the circumstances and limitations of this study, it was concluded that children did not achieve a higher level of competency on the music concept when practice with the concept was supplied by the classroom teacher or distributed practice, in addition to the regular music periods. Children who received practice only in the regular music class, or massed practice, did achieve a higher level of competency on the concept. Also, grade level was related to achievement in the identification of melodic repetition. The fourth grade students had a higher achievement level than did the second grade students.

## ABSTRACT

## DISCUSSION AND TRANSCRIPTION OF THE THIRTEENTH-CENTURY MIDDLE ENGLISH RELIGIOUS MONODY, WORLDES BLIS

Daniel William Goodell, Ph.D.
Washington University, 1978

The primary objective of this dissertation is to provide a performance-edition of Worldes blis, a thirteenth-century Middle English religious monody. Worldes blis appears in three manuscripts from widely separated areas in England. The lyric appears without music in one GB Ob MS. Digby 86, and with music in GB Ob MS. Rawlinson G.18 and GB Lbl MS. Arundel 248. Each of the three versions is studied in terms of its provenance (and that of its manuscript), of the verbal text, of the monodic setting, and (in parvo) of text in relation to monody.

The discussions of provenance are based on information provided by the contents of each manuscript as well as dialectal/linguistic indices found within the lyric itself. The lyric's verbal structures are examined, and a translation and phonetic transcription are given. Of particular concern is the treatment of final <e>, which is examined in terms of monodic stress. The placement of pitches above final <e> strongly supports the view that

<e> was not only usually pronounced but carried more than minimal stress and therefore was phonetically likely to be realized as something like /ɛ/ or /e/, rather than as /ə/. The two monodies are discussed, and the performance-transcriptions are then given.

The version of Worldes blis MS. Digby 86, without music, is "underlayed" to the monodies of MS. Rawlinson G. 18 and MS. Arundel 248. Various performance considerations of Worldes blis are discussed.

## ABSTRACT

### CADENTIAL EMBELLISHMENTS IN GERMAN KEYBOARD MUSIC OF THE SIXTEENTH, SEVENTEENTH, AND EIGHTEENTH CENTURIES

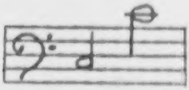
Maureen A. Jais-Mick, M.M.E.
University of Missouri-Kansas City, 1978

A Cadential Embellishment is defined as "a treatment of the final chord(s) in both middle and final cadences which may range from a simple octave leap or passing tone to complex arpeggiations or scale patterns." It must be independent of the composition in which it appears; that is, capable of being removed without altering the work.

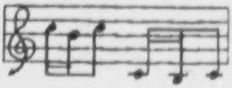
Introductory material presents pre-sixteenth century cadential formulae taken from works of Adam of Ileborgh (1448), Conrad Paumann (1452), and other contemporary sources. Succeeding paragraphs propose the existence of improvised Cadential Embellishments in later keyboard performance practice while Chapters One through Nine contain extant embellishments provided by composers for: (I) Dance Suites, (II) Preludes, (III) Fugues, (IV) Latin Church Music, (V) Chorale Preludes, (VI) Sonata/Concerto, (VII) Chamber Music, (VIII) Variations, (IX) Miscellaneous Compositions.

Within each chapter are nine divisions of Cadential Embellishments:

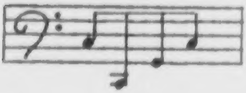
I Embellishments based upon the simple octave leap:



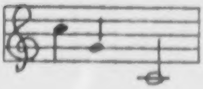
II Embellishments based upon the octave leap, but with more variety in its treatment:



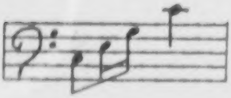
III Embellishments based upon the octave leap, plus the intervals between tonic and dominant:



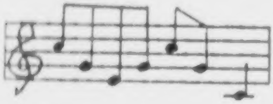
IV Embellishments based upon the intervals between tonic and dominant:



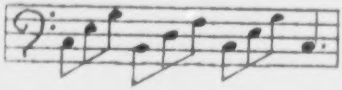
V Embellishments based upon a simple arpeggiation of the final harmony:



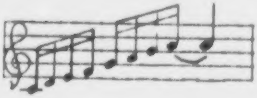
VI Embellishments based upon a varied arpeggiation of the final harmony:



VII Embellishments based upon arpeggiation of the final harmony, but with the addition of passing tones and an occasional foreign harmony:



VIII Embellishments based upon conjunct motion:



IX Miscellaneous Embellishments:

A final chapter, dealing with differences in style among modal and tonal Cadential Embellishments improvisation of embellishments, and addition of embellishments to cadences which lack them is the goal of the thesis; the preceding chapters are considered the necessary foundation for such a discussion.

## ABSTRACT

# AN EXPERIMENTAL STUDY OF THE RELATIONSHIP BETWEEN MUSICAL NOTE-READING AND LANGUAGE READING

Daniel Lew Roberts, M.M.E.
University of Missouri-Kansas City, 1978

The problem of the study was to investigate the effects of a regular program of practice in note-reading on the rate of word-reading (RWR) in below normal readers. Level of pretest RWR scores, sex, and age were identified as variables in the study.

The purpose of the study was (1) to evaluate the RWR gains of fifth grade students of below normal RWR who were given a six-week program of daily note-reading practice on a keyboard instrument, and (2) to compare these results with the RWR gain of fifth grade students of below normal RWR who were not given the program of daily note-reading practice, when pretest RWR scores, sex, and age were held constant.

The research was a separate sample pretest-posttest experimental-control equivalent materials true-experimental design. Achievement in RWR was sampled in one grade level of below normal readers who were enrolled in remedial reading classes.

The instrument used for measurement was the Basic Reading Rate Scale (BRRS), Forms A and B, by Miles A. Tinker and revised by Ronald P. Carver (Revrac Publications: Silver Spring, Maryland, 1971).

The sample of thirty-six subjects consisted of students who were enrolled in fifth grade remedial reading classes in the six elementary school of the Grandview Consolidated School District No. 4 Grandview, Missouri. All schools have predominantl white populations and are in the lower- through

upper-middle socio-economic bracket. Although all subjects in fifth grade remedial reading were used, eighteen subjects were randomly designated as the experimental group, and seventeen were randomly designated as the control group. Complete sets of data for thirty-three subjects were obtained.

Form A of the BRRS was administered as the pretest. Subjects in the experimental group were instructed to practice for speed for ten minutes each school day for six weeks on specially prepared note-reading sheets. These exercises increased gradually in difficulty according to numbers of notes played. All subjects were then posttested with Form B of the BRRS, and the data were computer-processed for statistical significance by one-way analysis of variance. Planned comparisons were analyzed by a Scheffe test of difference between means.

No significant gain in RWR was demonstrated by subjects in the experimental group as a whole, but subjects who pretested in the lower half of the group did increase significantly over the control group. No significant difference was demonstrated according to sex or age.

Within the limitations and circumstances of the investigation, the program of note-reading practice appears to have been effective only for increasing the RWR of very slow readers. Further investigation under other circumstances is warranted before positive conclusions can be reached.

# ABSTRACT

## A COMPARATIVE STUDY OF GROUP INSTRUCTION AND SELF-INSTRUCTION USING TWO MUSICAL TASKS: OBOE TIMBRE IDENTIFICATION AND MELODIC SEQUENCE IDENTIFICATION

Jimmy Kay Trenkle, M.M.E.
University of Missouri-Kansas City, 1977

The problem of this study was to determine if group instruction was as effective as self-instruction when AVII models were used.

The purpose of this study was to compare the achievement of third grade students instructed in a self-instructed format and the achievement of third grade students instructed in a group instructed format using AVII model materials on two musical tasks, oboe timbre identification and melodic sequence identification.

A quasi-experimental intact-group pretest-posttest equivalent materials research design was used. A criterion instrument was constructed to measure achievement.

The responses on the criterion measure for achievement by subjects on two musical tasks constituted the primary data. Kind of task, school, age, reading level, and sex were the secondary data.

The first grade self-instructed class had a significant mean gain on oboe achievement when type of instruction was considered. Mean gain on sequence achievement was significantly lower. It appears that a first grade student with a limited vocabulary would rely more upon pictures as a mode of reading. Type of task, reading level, or sex had a minimal effect on the type of instruction. There was no significant difference on sequence achievement for self-instructed, group instructed, and no instruction third grade classes. There was a significant difference on oboe achievement when reading level and age were considered.

Subject to the limitations and circumstances of this study, it was concluded that there were no significant differences between group instruction and self-instruction.

## ABSTRACT

### MODALITY, TONALITY AND *MUSICA FICTA* IN THE SIXTEENTH-CENTURY *CHANSON*

Rhian Samuel Curtis, Ph.D.
Washington University, 1978

During the sixteenth century, the harmonic idiom of the polyphonic chanson underwent a metamorphosis which can be clearly assessed only if *musica ficta* practices are understood. The rules which govern these practices and exceptions to these rules are described in detail, albeit haphazardly, by Renaissance theorists. In this study their comments are appraised.

The term *musica ficta* includes both printed accidentals and those added by the singer in performance: a study of the former helps illuminate the latter. The *Mellange de chansons* (Paris: Le Roy and Ballard, 1572), a retrospective collection of the polyphonic chanson containing 148 pieces, is an ideal vehicle for the examination of printed *musica ficta*.

When theoretical commentaries and musical evidence are combined, the constantly changing trends of *musica ficta* addition are discerned. Accidentals added to conform to theoretical rules generally function tonally, that is, they create chord progressions associated with a tonal idiom. These phenomena have only local implications, however. An early chanson, using accidentals only to comply

with musica ficta rules, may sound inconsistent to the modern listener, since it vacillates between modal and tonal chord progressions. Later chansons indicate a new perception of the role of the accidental. While it may sometimes arise from a rule of musica ficta, it is often added specifically to maintain the tonal idiom heard elsewhere in the chanson.

In the Mellange we occasionally see addition of ficta that conflicts with the style of the chanson itself, when accidentals in early chansons have been added editorially to conform to a later harmonic style. These anomalous accidentals must be removed for a true assessment of the chanson's idiom. We also see some examples of the cautionary sharp (in the chansons of Nicolas de La Grotte). This sharp does not inflect the tone it precedes but functions as a natural sign.

While this study permits us to assess the growing role of the sharp, it also provides a glimpse of the conservative use of the flat in early chansons, warning the modern editor that accidentals must be added with caution, lest they eradicate the elusive modal idiom employed in these compositions.

## ABSTRACT

## MUSIC AS REINFORCEMENT IN INCREASING SPONTANEOUS SPEECH AMONG AUTISTIC CHILDREN

Darlene Watson, M.M.E.
University of Missouri-Kansas City, 1978

The problem in this study was to determine whether music could be an effective reinforcer for increasing spontaneous speech among autistic children. The purpose was to compare the average frequency of response when using various types of reinforcement: (1) tokens exchanged for a music session led by a music therapist or a music therapy student,

(2) unspendable tokens, or (3) tokens exchanged for a taped music session led by a classroom teacher. Subjects of the experiment were ten students, aged seven through sixteen years, from Sherwood Center for Exceptional Children in Kansas City, Missouri.

The experiment consisted of ten-day training segments for each of the following treatments: Initial Treatment A (tokens exchanged for a music session led by a music therapist or a music therapy student), Treatment B (unspendable tokens), Treatment C (tokens exchanged for a taped music session led by a classroom teacher), and Final Treatment A (repetition of Treatment A). Tokens were awarded each time a subject spontaneously emitted speech towards a peer. A criterion number of tokens was established, based on response of the first day of the experiment, and was increased by one after the subject had met a particular criterion for two consecutive days. Average token number for each treatment phase was compared to assess effectiveness of each type of reinforcement.

When comparing the effectiveness of the various treatments, training using tokens exchanged for a music session led by a music therapist or a music therapy student as reinforcement produced a significantly greater number of responses than either the use of unspendable tokens for reinforcement or the use of tokens exchanged for taped music sessions led by a classroom teacher as reinforcement. The final training, using music led by a music therapist or a music therapy student as reinforcement, produced even more responses than the initial training of the same treatment. Therefore, this final training produced significant improvements over the use of unspendable tokens for reinforcement of the use of taped music sessions led by a classroom teacher as reinforcement. The use of unspendable tokens produced significantly greater responses than the use of taped music sessions led by a classroom teacher, although once again this treatment was less effective than music led by a music therapist or a music

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therapy student in either the initial or final treatment. Taped music sessions led by a classroom teacher proved to be the least effective of all treatments. Initial and final treatments using music led by a music therapist or a music therapy student produced significantly greater responses than the taped music sessions led by a classroom teacher. In summary, rating the various treatments from most effective to least effective, final training using music led by a music therapist or a music therapy student as reinforcement (Final Treatment A) received the highest rating. Treatments listed in decreasing order from the highest were initial training using music led by a music therapist or a music therapy student as reinforcement (Initial Treatment A), the use of unspendable tokens as reinforcement (Treatment B), and the use of taped music sessions led by a classroom teacher as reinforcement (Treatment C).

When evaluating the results, an uncontrolled intervening variable must be considered for complete understanding of the study. What began as ten subjects in one self-contained classroom became ten subjects in three different classrooms after the Christmas vacation. Baseline and Initial Treatment A were conducted with all children in one classroom. During the remainder of the study the children were distributed among three separate classrooms. In view of this fact findings must be interpreted with suitable caution. Findings, however, are more appropriate because they so nearly parallel real classroom situations.

It can be concluded that music was an effective reinforcer for increasing spontaneous speech among these autistic children. All treatments, including the one using unspendable tokens as reinforcement, showed significant increases of responses compared to the baseline average. The treatments utilizing music sessions led by a music therapist or a music therapy student showed far greater increases than the other treatments, however. This indicates that musical activities led by a music therapist or music therapy student were effective in increasing spontaneous speech among the children.

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I. Music as Reinforcement in Increasing Spontaneous Speech Among Autistic Children
Darlene Watson, University of Missouri-Kansas City . . . . . . . . 8

II. A Study of Several Methods of Handling the Boy's Changing Voice
Fredrick R. Willman, University of Missouri-St. Louis . . . . . . . . 21

III. The Effect of Training in Interaction Analysis on the Verbal Teaching Behaviors and Attitudes of School Instrumental Music Education Students Studying Conducting
Charles E. Hicks, University of Missouri-St. Louis . . . . . . . . 36

IV. The Child-Centered vs. the Adult-Centered Rationale--A Dualistic Approach to the Use of Philosophy in Curriculum Development with Special Application to Music Education
Rene Boyer, Cincinnati Conservatory of Music . . . . . . . . . . 48

V. Selected Abstracts in Music Education

A. Harry S. Truman and His Presidential Administration as an Influence on Music in the United States 1945-1952
Cynthia M. Atwell, University of Missouri-Kansas City . . . . . 87

B. Recognition of Chest, Head and Falsetto Registers of Isoparametric Tones of Tenor Voices
Charles L. Beard, Jr., University of Missouri-Kansas City . . . 88

C. Jacques Hotteterre's L'art De Preluder (For Wind Instruments)--A Translation and Commentary
Margareth Anne Boyer, University of Missouri-Kansas City . . . . . 91

D. A Conductor's Analysis of and Preparation and Approach to Polyrhythms in Certain of the Choral Works of Charles E. Ives
Jack C. Groh, University of Missouri-Kansas City . . . . . . . 92

E. A Concerto in G Major for Solo Transverse Flute, Two Violins, Viola and Bass by Leonardo Leo
Judith Johnson Herndon, University of Missouri-Kansas City . . . . . . . . . . . . . . . . . 93

F. Concept Tasks Young Children Can Master
June Thomsen Jetter, University of Missouri-Kansas City . . . . . 95

G. A Photographic, Air Flow Direction, and Sound Spectra Analysis of Two Trumpet Embouchure Techniques
Walter Jerry Myers, University of Missouri-Kansas City . . . . . 96

H. A Comparison of the Tonal Memory Skills and Rhythmic Memory Skills of Second-Grade Children
Patricia Harvey Powell, University of Missouri-Kansas City . . . . . . . . . . . . . . . . . 99

I. The Phi Factor: Mathematical Proportions in Musical Forms
James A. Rothwell, University of Missouri-Kansas City . . . . 100

J. The Use of the Tuba in the Symphonic Poems of Richard Strauss
John L. Smith, Jr., University of Missouri-Kansas City . . . . 103

K. William Levi Dawson (b. 1898) and an Analysis of His Negro Folk Symphony (1932; Rev. 1952)
Jacqueline Kay Thompson, University of Missouri-Kansas City . . . . . . . . . . . . . . 104

L. A Study of Attitudes, Competencies and Understandings Achieved Through the Medium of Electronic Music in Selected Upper Elementary and Junior High School Classrooms
Fredrick R. Willman, University of Missouri-St. Louis . . . . . . 105

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Editor: Jack R. Stephenson
Conservatory of Music
University of Missouri-Kansas City
Kansas City, Missouri 64111
Telephone: 816 363-4300

Editorial Committee:

Tilford Brooks
Department of Music
Washington University
St. Louis, Missouri 63130
Telephone: 314 889-5585

Charles Emmons
Department of Music
University of Missouri-Columbia
Columbia, Missouri 65201
Telephone: 314 882-3438

June Jetter
Conservatory of Music
University of Missouri-Kansas City
Kansas City, Missouri 64111
Telephone: 816 363-4300 ext. 206

F. Bion McCurry
Department of Music
Southwest Missouri State University
Springfield, Missouri 65802
Telephone: 417 836-5000

Douglas Turpin
Director of Music-Parkway Public Schools
465 Northwoods Mill Road
Chesterfield, Missouri 63017
Telephone: 314 434-8412

Fred Willman
Department of Music
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, Missouri 63121
Telephone: 314 453-5901

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# PREFACE

The Missouri Journal of Research in Music Education, published by the Missouri Music Educators Association, is devoted to the needs and interests of teachers of music in Missouri and the nation. This issue, Volume IV, Number 3, is the eighteenth to appear in as many years.

The members of the Editorial Committee are grateful to those readers who have written suggestions concerning the content of past issues and request that criticisms and suggestions again be sent to the Editor concerning the content of this issue. We strive for a reasonable balance among music theory, history, philosophy, aesthetics, and pedagogy.

We express our deep gratitude to the Missouri Music Educators Association for their financial support to make it possible to continue to publish the Missouri Journal of Research in Music Education.

The Editorial Board

# MUSIC AS REINFORCEMENT IN INCREASING SPONTANEOUS SPEECH AMONG AUTISTIC CHILDREN

Darlene Watson
Instructor in Music Therapy
University of Missouri-Kansas City

One of the most obvious problems of the autistic child is his inability to express himself verbally. Many of these children are completely nonverbal or offer verbal responses only after much prompting. Inappropriate sounds or verbal responses are sometimes emitted in addition to frequent echolalic responses. Some children speak to adults but never attempt speaking to peers. To increase the frequency of appropriate verbal response would be an appreciable step towards socialization and normalization. Music seems to be an effective reinforcer to increase desirable behaviors among children.

The purpose of this investigation was to compare the average frequency of responses using various types of reinforcement: (1) tokens exchanged for a music session led by a music therapist or a music therapy student, (2) reinforcement of unspendable tokens, or (3) tokens exchanged for a taped music session led by a classroom teacher.

That communication is a prime problem area for the autistic child has been stated in several research studies (Prior, 1977; Provonost, 1961; Euper, 1968; Hargrave and Swisher, 1975; Metz, 1965; Colby and Smith, 1971; Ratusnik and Ratusnik, 1974, Lovaas, 1974). Many researchers also suggest that music is a high interest area among autistic children (Kanner, 1971; Sherwin, 1953; O'Connell, 1974). Behavior modification has been seen as a successful teaching approach when dealing with the autistic child (Lovaas, 1974; Ferster, 1961; Ferster and DeMyer, 1962; Lovaas, 1973). Several studies have utilized music in a behavior modification treatment plan because the behavior modification approach seems to bring positive results and because music has been proven to be a high interest area among autistic children (Stevens and Clark, 1969; Jorgenson, 1974; Schmidt et al., 1976; Reid et al., 1975). In previously mentioned studies, the teaching during music sessions bore positive results. The present study takes the position that music can be used as an effective reinforcer of previously acquired skills. Little, if any research has taken this approach. The communication goal in this study was to increase spontaneous speech. Subjects could already imitate sounds and words, label things, and obey commands. They were at a level where pronouns, tenses, time and recall were being taught. Spontaneous verbal expression was being encouraged, although little progress was being made previous to the study.

## Method

### Subjects

The subjects used in this experiment were chosen by a purposive assignment. Ten children from the Sherwood School for Exceptional Children in Kansas City, Missouri were the subjects in this study. These children all exhibited characteristics and behaviors typically associated with autism. Ages of these children ranged from seven to sixteen years and nine of the ten were males. Intelligence levels varied; there was a distribution of below average, average and above average functioning levels. This was based on scores in classroom work compared to general expectations of children of the same age in public schools.

### Apparatus

The music room measured approximately fourteen feet by ten feet and was fully carpeted. There was adequate space for all activities to be carried out, yet the room was small enough to provide a feeling of closeness. The only source of distraction to most of the children was the musical equipment brought into the room by the therapists. Other items in the room were successfully ignored by all subjects except for Subject X. This child sometimes watched people passing in the hallway and on one occasion ran into the pastor's office.

## Procedure

In this experiment each subject was used as his own control. Two-week treatment training segments included each of the following types of reinforcements:

1. Treatment A--Tokens were given for spontaneous speech with an individualized pre-established number of accumulated tokens needed to attend music sessions led by a music therapist or a music therapy student.
2. Treatment B--Tokens were given for spontaneous speech with nothing for exchange.
3. Treatment C--Tokens were given for spontaneous speech with a pre-established number of accumulated tokens needed to attend music sessions led by a classroom teacher. The teacher used a specially constructed tape of recorded musical activities in the music session.

Subjects could earn tokens Monday through Friday from 9:00 a.m. until 1:00 p.m. except during lunch and outside play. Classroom teachers reported that lunch and outside play were too unstructured to allow for the accurate observation necessary in the experiment. Tokens could be earned, therefore, only in the classroom setting and were administered by the classroom teachers.

After consultation with the staff of Sherwood Center, a desirable behavior which had a low frequency of occurrence among all subjects was chosen. A baseline was taken of this behavior, spontaneous speech with peers, and it was established as the target behavior of the study. The mean number of baseline responses was less than one for eight of the ten subjects. The remaining two subjects made less than four responses. A token reinforcement system was designed. In this study the tokens consisted of metal washers which were placed into a clear plastic cup with the subject's name on it. Because the token system was a new process for the students, a training period for learning and adjusting was constructed. A two-week period was used to train the students how to accumulate tokens and how to exchange them for music.

The initial criterion for all students was set at one prompted verbal response per day (one token) to earn the privilege of attending music. Classroom teachers consistently prompted the subjects so that they had the maximum opportunity to earn the one token. Tokens were given immediately after an appropriate response. During the second training week prompting was discontinued for all subjects who had earned at least one token during the previous week. A new criterion was set for these subjects at one unprompted token, while the first criterion was retained for those subjects who had not yet received a token. When these students earned one prompted token, the criterion was immediately changed to one unprompted token. By the end of the second week all subjects had earned at least one unprompted token and were prepared to begin the actual experimentation.

During this training period musical activities were introduced and their reinforcing effect was observed. Activities using musical instruments, activities utilizing movement and songs were selected for use in this study on the basis of the observed outcome. A tightly structured session and simple directions proved to bring about the most successful experiences for the subjects.

After a baseline for the target behavior was established, the token system was trained and effective musical activities found, the actual experiment began. For the first two weeks of the experimental period Treatment A was administered. Tokens were awarded for each spontaneous verbal interaction. If the criterion number of tokens was met, the subject was permitted to attend a music session led by a music therapist or music therapy student. At the end of that period a two-week vacation from school occurred and no data were generated. When students returned to school Treatment B began. Subjects still earned tokens daily for spontaneous verbalizations with peers, but no music or other reinforcement was available for exchange. After two weeks of this phase of the experiment, Treatment C began. Tokens earned for spontaneous speech could be exchanged for music time as in Treatment A, but the music session was led by a classroom teacher instead of a music therapist or music therapy student. Prepared cassette tapes provided examples of music activities that had been previously used by the music therapist and music therapy students were given to the classroom teacher to use for the two-week period. Some of the selections were from recordings while others were songs sung and accompanied by the music therapist to best reproduce the previous treatment plan. Since the music was provided, the classroom teacher was only responsible for organization and structure of the students. Instructions or supplies were provided by the music therapist for the teacher. Methods of charting behaviors and increasing criteria remained the same as in previous treatments. A final segment of the experiment repeated Treatment A. Again the music therapist and music therapy students led daily sessions for students who had acquired the prescribed number of tokens. Daily charting was kept to record the number of tokens earned, the current criterion, music sessions attended, activities of the music session, and any comments made by teachers or music therapists.

The schedule of increasing the number of tokens required to attend music was: (1) on day one of the experiment everyone earning one token or more was admitted to music, (2) on day two the criterion was set at whatever number of tokens were earned on day one, (3) when that number had been reached for two consecutive days the criterion was increased by one. This pattern was continued throughout the experiment. A prescribed number of tokens must have been received for two successive days before the criterion was changed to one plus the previous number. Only when the criterion was met were subjects admitted to music.

In this study one registered music therapist and two music therapy students led the sessions. Random rotation of these leaders was used. In this way the effect of the therapist was controlled to determine the effect of music as a reward rather than the therapist who presented it. The same activities were carried out by the registered music therapist and the music therapy students. At least one song, one movement activity and one activity using musical instruments was presented each session. The music therapist demonstrated the activities for the music therapy students before permitting them to lead sessions, so that consistency would be maintained.

The categories or phases of the experiment were: (1) baseline, (2) training of the token system, (3) Initial Treatment A, (4) Treatment B, (5) Treatment C, and (6) Final Treatment A. Charting of the average number of responses of each subject for each phase of the experiment are found in Table 1. Comparisons of the various treatment methods as defined in the hypothesis will show the most effective reinforcers to increase the desired behavior.

To analyze the data, the t-test for related measures was used. The test was used to determine the significance of difference between two correlated means. Results can be found in Table 2. The formula for determining computations was as follows.[1]

$$t = \frac{\overline{X} - \overline{Y}}{\sqrt{\dfrac{\Sigma D^2 - \dfrac{(\Sigma D^2)^2}{N}}{N\ (N-1)}}}$$

## Table 1

## MEAN NUMBER OF RESPONSES FOR EACH TREATMENT

| Subjects | Baseline | Initial Treat.A | Treat.B | Treat.C | Final Treat.A |
|---|---|---|---|---|---|
| I | .00 | 2.70 | .70 | 1.50 | 4.30 |
| II | .50 | 2.50 | .77 | .77 | 4.625 |
| III | .00 | 3.50 | 1.90 | 2.70 | 6.86 |
| IV | .00 | 8.70 | 2.25 | 1.88 | 6.40 |
| V | .00 | 12.50 | 3.30 | 2.00 | 9.30 |
| VI | 3.66 | 20.60 | 7.60 | 6.77 | 23.20 |
| VII | .33 | 1.70 | 1.50 | .40 | 3.50 |
| VIII | .50 | 10.90 | 6.40 | 3.44 | 8.78 |
| IX | 1.66 | 6.10 | 2.20 | 3.80 | 7.00 |
| X | .00 | 4.90 | 1.40 | 1.00 | 5.80 |

## Table 2

## t-TEST FOR RELATED MEASURES

| | | |
|---|---|---|
| Baseline $\bar{X}$ | Initial Treatment A$\bar{X}$ | t |
| .665 | 7.41 | 4.11** |
| Baseline $\bar{X}$ | Treatment B$\bar{X}$ | t |
| .665 | 2.80 | 3.81** |
| Baseline $\bar{X}$ | Treatment C$\bar{X}$ | t |
| .665 | 2.43 | 2.67* |
| Baseline $\bar{X}$ | Final Treatment A$\bar{X}$ | t |
| .665 | 7.98 | 4.94** |
| Initial Treatment A$\bar{X}$ | Treatment B$\bar{X}$ | t |
| 7.41 | 2.80 | 3.69** |
| Initial Treatment A$\bar{X}$ | Treatment C$\bar{X}$ | t |
| 7.41 | 2.43 | 3.51** |
| Initial Treatment A$\bar{X}$ | Final Treatment A$\bar{X}$ | t |
| 7.41 | 7.98 | .80 |
| Treatment B$\bar{X}$ | Treatment C$\bar{X}$ | t |
| 2.80 | 2.43 | .90 |
| Treatment B$\bar{X}$ | Final Treatment A$\bar{X}$ | t |
| 2.80 | 7.98 | 4.25** |
| Treatment C$\bar{X}$ | Final Treatment A$\bar{X}$ | t |
| 2.43 | 7.98 | 4.33** |

**p <.01 *p <.05

The hypothesis, stating that there would be no significant difference (.05 or less level) in the average frequency of response using various types of reinforcements, was rejected. There was significant difference (.01 level) between Baseline $\bar{X}$ and Treatment A$\bar{X}$, Baseline $\bar{X}$ and Treatment B$\bar{X}$, Baseline $\bar{X}$ and Treatment C$\bar{X}$, Baseline $\bar{X}$ and Final Treatment A$\bar{X}$, Treatment A$\bar{X}$ and Treatment B$\bar{X}$, Treatment A$\bar{X}$ and Treatment C$\bar{X}$, Treatment B$\bar{X}$ and Final Treatment A$\bar{X}$, and Treatment C$\bar{X}$ and Final Treatment A$\bar{X}$. There was no significant difference (.05 level), however, between Treatment A$\bar{X}$ and Final Treatment A$\bar{X}$, and Treatment B$\bar{X}$ and Treatment C$\bar{X}$.

## The Purpose

The purpose of this investigation was to compare the average frequency of response using various types of reinforcement. All treatments significantly increased the average response of the baseline. The greatest increases were found when music led by a music therapist or a music therapy student was used as reinforcement. There was a significant increase, however, when unspendable tokens were used as the reinforcement and when taped music sessions led by a classroom teacher were used as reinforcement. In summary, the most effective treatment was the final training using music led by a music therapist or a music therapy student as reinforcement (Final Treatment A). Remaining treatments listed in decreasing order of effectiveness were initial training using music led by a music therapist or a music therapy student as reinforcement (Initial Treatment A), the use of unspendable tokens as reinforcement (Treatment B), and the use of taped music sessions led by a classroom teacher as reinforcement (Treatment C).

## The Problem

The problem in this study was to determine whether music could be an effective reinforcer for increasing spontaneous speech among autistic children. All treatments showed an increase in the average number of responses from the baseline. Baseline average was less than one response (.665) whereas all treatment averages were well above this number. What was a near zero daily number of spontaneous speech occasions was greatly increased as a result of the various treatments. More specifically, Initial Treatment A, which used music sessions led by a music therapist or a music therapy student for reinforcement, averaged 7.41 daily spontaneous speech occasions for each of the subjects. Treatment B, which used the unspendable tokens for reinforcement averaged 2.80 daily spontaneous speech occasions for each of the subjects. Treatment C, which used taped music sessions led by a classroom teacher as reinforcement, averaged 2.43 daily spontaneous speech occasions for each of the subjects. Final Treatment A, which was a repeat of the Initial Treatment A, averaged 7.98 daily spontaneous speech occasions for each of the subjects. The most responses were given when the reinforcement was a music session led by a music therapist or a music therapy student. Both the initial treatment and the final treatment produced much higher average responses than the other treatments. The next highest number of spontaneous speech interactions was produced during Treatment B, which used unexchangeable tokens as reinforcement. Music sessions on tape and led by a classroom teacher showed the fewest spontaneous speech occasions. The average daily number of responses for Treatment B and Treatment C was so similar, however, that the difference was not statistically significant.

## Discussion

It can be concluded that music was an effective reinforcer in increasing spontaneous speech for these autistic children. All treatments, including the one using unspendable tokens as reinforcement, showed significant increases of responses compared to the baseline average. The treatment utilizing music sessions led by a music therapist or a music therapy student showed far greater increases than the other treatments. This indicates that musical activities led by a music therapist or a music therapy student were extremely effective in increasing spontaneous speech among the children.

It is interesting to note that unspendable tokens as reinforcement showed greater increases of response than taped music sessions led by a classroom teacher. The tokens themselves, obviously had reinforcing quality. The taped sessions led by the teacher were less appealing to the children than earning the tokens with nothing for which to exchange them.

One of the problems in a field study is that it is not possible to maintain laboratory conditions by which to study the effect of a treatment. Findings, however, are more appropriate because they so nearly parallel real classroom settings. In this experiment what started out to be ten subjects in one self-contained classroom became ten subjects in three different classrooms after the Christmas vacation. Baseline and Initial Treatment A were conducted with all children in one classroom. During the remainder of the study all children were distributed among three separate classrooms. Other variables such as illness of students and teachers, and school cancellations may have caused inconsistencies in the study. In view of these facts, findings must be interpreted with suitable caution.

Music appeared to be reinforcing to the children from the start of the experiment. All children were anxious to attend music; there was not one example of a child who met his criterion and then did not choose to attend music. After tokens were counted and the children were informed if they had accumulated enough tokens to enable them to go to music, reactions to the outcome were obvious. Those children unable to attend often pouted, cried, or quickly began talking to peers, hoping that it was not too late to earn more tokens.

When a child was not permitted to attend music he usually met his criterion on the following day.

The author would encourage replication of this study under more controlled circumstances. If the uncontrolled intervening variables could be accounted for perhaps the results would be altered. Considering the variables in this study though, it still appears that music, led by a music therapist or a music therapy student, was a reinforcing element in increasing spontaneous speech among these autistic children. The target behavior in this study was to increase spontaneous speech. This behavior could easily be changed to any appropriate communication objective that could be adequately observed in a classroom setting. Other variations of the study would be to develop a choice of musical rewards for which to exchange tokens. Perhaps a number of minutes of music listening time could be purchased for a prescribed number of tokens. The effectiveness of music as reinforcement indicates the probability that academic skills as well as additional social skills could be improved with the instigation of music as a reward in a token system.

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# A STUDY OF SEVERAL METHODS OF HANDLING THE BOY'S CHANGING VOICE

Frederick R. Willman, Ph.D.
University of Missouri-St. Louis

The adolescent boy has often been neglected in singing activities simply because the teacher did not attempt to understand or was unaware of the physical and emotional changes taking place. However, many teachers have learned to recognize these changes and have developed methods of stimulation that will keep the boy singing throughout this period of adolescence.

## Importance of the Study

The impact of junior high school music experience has a direct relationship to the further musical development of the student. It is hoped that the collection and summarization of material from various sources found in this article will aid in the understanding of the so-called "adolescent vocal problem" and thereby encourage a more thorough junior high music program.

## Indications and Characteristics of the Changing Voice

There are many physical changes in the boy's appearance, as well as the vocal changes which occur, that can indicate voice change to the teacher. The wise teacher will watch for these indications and characteristics and use them as a guideline in the planning of his teaching program.

One of the first indications of voice change is in the outward appearance of the boy. His body increases in size--often to the point where he finds it awkward to handle. The body also becomes covered to a greater extent with hair. Changes in parts of the body that produce and resonate sounds can also be detected. The lips and nose become larger and the Adam's apple appears in the throat.[1]

Mutation may be detected also by the change in the speaking voice. It is often characterized by an uncertainty and lack of control in pitch. A typical example is the boy who has been talking at a fairly uniform level of pitch and suddenly switches to a shrill sound. Often an attempt to avoid speaking in class on the part of the adolescent boy is an effort to cover up for this inconsistency.[2]

Although the indications and characteristics of the changing voice overlap a great deal, there is one aspect of the voice change that is not so clearly indicated. This aspect, the range of the changing voice, must be experimented with and studied carefully in the case of each student. Most vocal music teachers today are followers of either the "alto-tenor" concept or the "cambiata" concept of ranges in the changing voice. The remainder of this section will be devoted to the discussion of these two range concepts.

## The Alto-tenor Concept

One method of describing the changing voice is known as the alto-tenor concept. It is based on the idea that as the voice matures the upper tones are cut off and the lower alto tones become broader and more like the upper tones of the tenor voice. From this stage the alto-tenor tones are gradually extended until they become more mature and full sounding. Depending upon the amount of drop in the range, the boy now becomes either a tenor or a bass.

The diagram on the following page shows the various stages of development (range-wise) outlined in the alto-tenor concept.

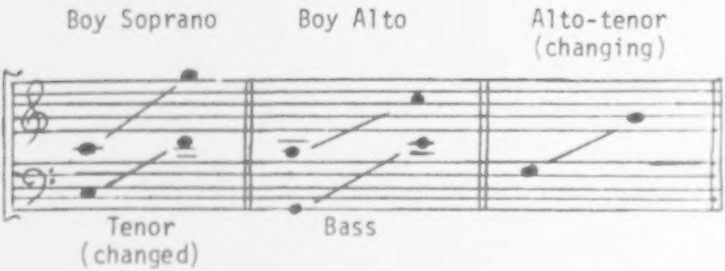


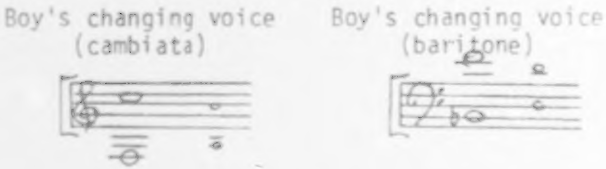
Fig. 1. The alto-tenor range development concept.[3,4]

The Cambiata Concept

The word "cambiata" was taken from the term "nota cambiata" which means changing note. It is used to describe the changing voice by giving it a name of its own rather than by borrowing a part of two other ranges. As with the alto-tenor concept, there are fairly definite range categories. However, the limits are somewhat larger and the voices are classified with a tessitura consideration in mind. The range outside the tessitura is not an especially comfortable range and would not, according to this concept, be used too infrequently.

The ranges identified with this concept are given below.[5]

(small notes indicate tessitura)


Boy's changing voice (cambiata)

Boy's changing voice (baritone)

Fig. 2. The cambiata range development concept.

## Problems of the Adolescent Boy During the Voice Change Period

Perhaps the word problem has been overused in describing the vocal difficulties of the adolescent boy, for often these "problems" are merely due to a lack of understanding on the part of the teacher. Although the physiological changes that occur cause the voice to change, the accompanying psychological tendencies are to a large extent responsible for the ease or difficulty experienced during this period of change.

The biggest physical problem for boys as they undergo the voice change is the inability to "cope with unison singing outside their temporary range."[6] The range at this stage has become quite limited and the boys are not able to sing outside this range nor are they able to sing at the extremes of the range for a prolonged period of time. As voice mutation occurs, the different parts of the vocal mechanism do not always develop at the same rate of growth. This often results in extreme pitch fluctuations that the singer cannot control.[7]

### Self-consciousness

The boy who shoots up overnight in his growth often finds himself unable to control his body with the grace and ease to which he has been accustomed. He may feel that he is "towering over" the rest of his classmates. As a result he may tend to be extremely shy and avoid taking an active part in class activities.

On the other hand, the small boy finds himself in an entirely different position. He feels inferior because he has not developed into a more masculine type. He is often afraid of being labeled "feminine" if he continues to sing when the bigger boys have lost all interest in singing.

The adolescent also undergoes another type of change as he grows. He gains new interests, forms new friendships, and becomes much more interested in other people. "He becomes a social being instead of an individualist."[8] This, too, is a part of his attempt to focus the attention of others away from himself.

## The Non-singer

The "non-singer" is usually an outgrowth of the music teacher's inadequacy to recognize the characteristics and indications of the voice change and work with the student accordingly to keep him singing within the limitations of his ability and range. If the boy is thought of as being a "non-singer" by the teacher or his peers, he will most likely feel ashamed that he cannot do as well as his fellow students, develop a defensive attitude against music, or find other means of music expression such as instrumental music or listening to music--assuming that there are other areas of music available. If he is not able to use one of these means of "escape," he will most likely grow up with an adverse feeling toward music.[9]

## Methods of Handling the Changing Voice

There have been a number of methods suggested for the handling of changing voices including that of the old English choirmasters:

> The older plan of training boys' voices, as inherited from the English school of choirmasters, was to keep the boy singing soprano as long as possible and to let the voice "break." Often it broke all to pieces and never recovered.[10]

The methods dealt with in this chapter are those, which are generally accepted by music educators today--those which encourage singing throughout the period of vocal change.

Most problems that occur during the voice change are psychological in nature although they may be traced to an earlier physiological source.

Boys, during adolescence, are striving for a feeling of importance and have a strong desire for achievement and accomplishment. Their attitude at this point can be a crucial factor in the success of the vocal music program.

## Creating Favorable Attitudes

Several methods for creating a favorable attitude toward music through the organization of a boys' glee club are suggested by Gehrkens in his book Music in the Junior High School.

1. Consult the high school principal and get him to agree to back your efforts in organizing a boys' glee club.
2. Invite the senior high school boys' glee club to sing at a junior high school assembly--especially if it is a very good club. (If there is no senior club, try to find some other vocal group of men or boys and ask them to sing at an assembly.)
3. Buy a few records of vocal solos by men--especially baritones and basses--and perhaps a few choral records, for use in the General Music Class. Be sure to choose compositions that have virility so that the boys may come to know that manly men sing.
4. Have the boys in the junior high school music class sing by themselves (as a group) occasionally, even though it is only a unison song. (Seating the boys apart from the girls--preferably in front of them--will result in better singing on their part.)
5. Make friends with a few of the most popular boys in the school, ask their advice about organizing a club, and do not announce the project until they feel that the time is ripe.[11]

These ideas could also be used to encourage favorable attitudes toward singing in the general music class.

## Achieving and Accomplishing Desires

The desire of the student for achievement and accomplishment is important in the over all educational picture. Music needs to have sound educational values. In return, music can contribute to the general educational development of the individual because the individual can undergo an experience within himself as he strives to understand the feelings of someone else or expresses his own emotions through music.

It is important that the student experience a feeling of accomplishment or achievement in music. In order for this to occur the teacher needs a thorough understanding of the psychological implications and approaches to teaching adolescent boys. Mursell and Glenn, in their Psychology of School Music Teaching, have summarized the psychological aspects of singing, from the standpoint of teaching, in music education as follows:

1. Singing differs from speech primarily in the introduction of fixed pitch levels. Otherwise it is similar, and so modern vocal education must be based on expressiveness, and interest in expressing something, like modern speech pedagogy.
2. The voice involves an extremely complex coordination which cannot be built up piecemeal out of its elements, but must be developed through expressive use.
3. The nervous control of the voice is so extensive and intricate that it really involves the entire personality, which is the true agency of song.
4. Thus our approach to all vocal problems should be personal rather than mechanical.
5. All the various factors on which the control of the voice depends, indicate a personal rather than a mechanical approach. Even the motor factors of breath control, facial

looseness, and placement should be handled through interest in the creation of musical beauty rather than by direct and formal drill.

6. Voice building, or better, voice discovery, should not aim at mechanical precision, but flexible control dictated by musical conceptions.
7. In dealing with the voice of the adolescent boy, the principle of personal approach is of special significance, for otherwise we may sacrifice his musical interests for the sake of ensemble effect, and ruin his voice.
8. School singing is the natural foundation of music education, and has very wide educational values.[12]

It is generally agreed upon that the boy should sing only within his comfortable range. This range is relatively free from tension and an even quality may be developed within this range by using the entire range every day. Two vocalizes which will accomplish this when used for three or four minutes a day have been suggested by Robert M. Conrad.[13]

(Work upward one octave by half steps.)

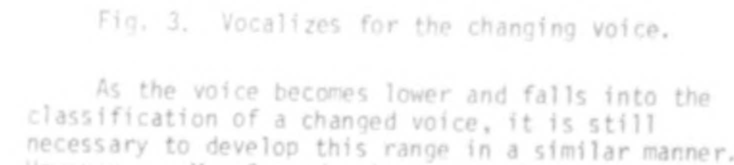
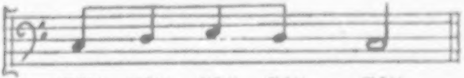


Fig. 3. Vocalizes for the changing voice.

As the voice becomes lower and falls into the classification of a changed voice, it is still necessary to develop this range in a similar manner. However, as Mr. Conrad points out: "As you work the unchanged voice down and the changing voice up, the natural voice will develop." Therefore, he suggests this vocalize for the changed voice.[14]



may, may, may, may, may
mah, mah, mah, mah, mah
moh, moh, moh, moh, moh

Fig. 4. Vocalize for the changed voice.

Two general concepts of handling the changing voice are commonly used today. These concepts are based upon the classification and range of the unchanged voice. These two concepts which were previously presented briefly (from the viewpoint of range development) in the chapter dealing with the characteristics of the unchanged voice are presented here in more detail as they apply to the handling and classification of the adolescent boy's voice.

## The Alto-tenor Concept

Harriet Nordholm and Ruth Bakewell in their book, Keys to Teaching Junior High School Music, suggest the following procedure for classifying the voices:

> Use a song such as "Carry Me Back to Old Virginny" or "In the Evening by the Moonlight." Transpose it to the key of E or E$^b$ and ask the boys to sing it in unison. They will automatically sing it in the rang which is most comfortable for them. Some boys will sing it an octave lower; have those boys drop out so that just the high voices remain; then have these high voices sing either of the above songs in the key of B$^b$ to further classify them.
>
> A physically mature boy may be an indication of a changing voice. A low speaking-voice may also indicate a change. Other indications of a

boy's voice changing are: (1) the quality of the lower tones becomes richer and thicker, (2) his lower range is extended downward considerably, (3) he is unable to sing the higher tones comfortably.

The boys who were told to drop out while the group was singing should now sing the song in the key of E or E$^b$. It will be noticed that these boys have an entirely new range and quality. The range usually extends from F below middle C upwards an octave plus a fourth (3rd line treble staff). These upper tones do have a soprano quality, but that is still part of the changing voice.

Now organize the boys in these classifications:

First Soprano: Light quality. Range: E (1st line) to G (1st space above the staff).
Second Soprano: Light quality. Range: Middle C to E (4th space).
Alto: Rich, full, vibrant quality. Range A (second line below staff) to C (third space).
Alto-tenor: Rich, mellow quality. Range: F (below middle C) to B (third line).
Bass: Deep and heavy quality. Range: C (second space, bass clef) to middle C.

KEEP THIS VOICE TESTING MOVING RAPIDLY.[15]

The alto-tenor should not be asked to sing unison songs an octave lower. He should be allowed to sing part songs in which his voice part is interesting and often contains the melody. The melody should not be one that moves quickly. The bass parts should also be rather slow moving. They should consist of fourths, fifths, and scale passages. Most important of all, the voices should be retested frequently to keep them singing in the range which is most comfortable.[16]

## The Cambiata Concept

This concept is primarily the work of Irvin Cooper. He suggests that the following method of etermining the cambiata voice:

1. Segregate the boys from the girls.
2. Explain to the boys the problem of maturation of their voices and that you are trying to determine what is best for them.
3. Require all boys to sing "Old Folks at Home" in the key of $B^b$ major.
   a. Baritones will sing an octave lower than the rest.
   b. Move around the group and tap the baritones on the shoulder telling them to quit singing.
4. Sing through the song again, with the baritones remaining quiet. This time use the key of $G^b$ major.
   a. Once again move around and tap the boys who are singing soprano on the shoulder.
   b. The remainder of the male voices are cambiati.[17]

Mr. Cooper suggests singing all music in four parts. If music is used which does not correspond to the ranges listed in chapter two of this paper, the teacher should transpose the entire selection. If this is not possible, the parts should be rearranged so they fit the ranges Mr. Cooper suggests.

## Summary of the Study

It was the purpose of this study to ascertain an effective means of handling the boy's changing voice by seeking answers to the following questions: (1) What are the characteristics of the changing voice? (2) What are the problems that arise during the period of the voice change? (3) What are some effective means of solving these problems?

The outward appearance of the boy: growth in size, appearance of more body hair, larger lips and nose and the appearance of the Adam's apple in the throat; a lowered pitch in the speaking voice; and lack of control in the speaking voice are characteristic of the changing voice. The development of the new range during this period may be described by two concepts: (1) the altc-tenor concept and (2) the cambiata concept.

The adolescent boy is confronted with problems which are both physiological and psychological in nature. Many of the psychological problems are an outgrowth of a physiological problem. The boy may be self-conscious about his inability to control his new body and voice or his lack of growth as compared to his classmates, and he usually seeks to become a part of a social group rather than retain his individuality.

The teacher should use psychology in his teaching so that he may understand the boy. He should work toward creating favorable attitudes toward music and encourage the boy to succeed in achievement in music. Singing needs to be done within the comfortable range of the boy.

The teacher can achieve this by testing voices often to determine this comfotable range. Two primary methods of classifying voices are in use today: (1) the alto-tenor concept and (2) the cambiata concept. The teacher can develop these ranges by having the boy use the entire range every day. Part-singing will encourage the use of the proper range better than unison singing which may require some of the students to sing outside their ranges. All music should be selected carefully to be sure that each part lies within the proper range. If some, parts do not, the teacher should transpose the selection or rearrange the song so that all parts are within the comfortable range.

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1. Peter W. Dykema and Hannah M. Cundiff, New School Music Handbook (Evanston, Ill.: Summy-Birchard Publishing Company, 1955), p. 409.
2. Ibid., pp. 409-411.
3. Karl W. Gehrkens, Music in the Junior High School (Boston: C. C. Birchard and Company, 1936), pp. 73-74.

4. Dykema and Cundiff, Handbook, p. 411.

5. Irvin Cooper, Letters to Pat Concerning Changing Voices in Voices in Junior High (New York: Carl Fischer, Incorporated, 1953), pp. 11, 14-25.

6. Ibid., p. 5.

7. Dykema and Cundiff, Handbook, p. 409.

8. John W. Beattie, et al., Music in the Junior High School (New York: Silver Burdett Company, 1938), p. 19.

9. Cooper, Letter, p. 6.

10. Gehrkens, Junior High School, pp. 72-73.

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12. James L. Mursell and Mabelle Glenn, The Psychology of School Music Teaching (Boston: Silver Burdette Company, 1938), pp. 298-299.

13. Robert M. Conrad, "Developing the Boy's Changing Voice," Music Educators' Journal, 50:68, April-May 1964.

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# THE EFFECT OF TRAINING IN INTERACTION ANALYSIS ON THE VERBAL TEACHING BEHAVIORS AND ATTITUDES OF SCHOOL INSTRUMENTAL MUSIC EDUCATION STUDENTS STUDYING CONDUCTING

Charles E. Hicks
Assistant Professor
University of Missouri-St. Louis

*Paper from research conducted at Michigan State University, 1976.*

Personnel in teacher training programs who work with university students are becoming increasingly aware of the need for techniques to improve teaching effectiveness. Amidon and Hough have cited three factors in helping young teachers bridge the gap between theory and practice: (1) the teacher must want to improve; (2) there must be a model of the kind of teaching behavior he or she wants to develop, and (3) the prospective teacher should receive feedback regarding his progress toward the teaching behaviors that he or she has conceptualized as a goal.[1]

It has become evident that various college and university teacher education programs have experienced difficulties in helping students translate theory into practice; because much of what is learned in education courses is neither conceptualized, quantified nor taught in a manner that builds a bridge between theory and practice.[2] To be understood, concepts in education must be verified by personal experiences; in turn, field experiences must be efficiently understood by the teacher in order to gain insight into the teaching-learning process.

Interaction Analysis is one technique used in teacher education to improve instructional effectiveness. Although this technique was first used as a research tool, many educators feel that it can be effectively applied to teacher training in a fashion consistent with a philosophy of personal inquiry. This inquiry involves finding ways of experimenting with, and changing one's own behavior.

## Rationale

Teachers have never had an empirically verified instructional theory to serve as a basis for their classroom behavior.[3] Perceptive teachers have sensed that the quality and quantity of teacher-pupil interaction is a critical dimension of effective classroom teaching. Without a theory, teachers on many occasions have been unable to generalize principles of instruction for specific classroom situations. Without objective means, veteran as well as young teachers are not able to capture the phenomenon of the instructional processes, the classroom climate and the possible effects of these on the attitudes and achievement of their pupils.

With the advent of competency-based teacher education, music educators at the college level are forced to take a closer look at scientifically verified techniques to promote the acquisition of teaching skills. These techniques include those of observation, measurement, and evaluation. It would seem that music educators, like educators in other disciplines, will be held accountable for deciding what is to be learned regarding teaching skills in their area. Not only will they be held responsible for what the students are to learn, but also, who should learn it, how, and in what instructional setting (where it is to be learned). It will become necessary to determine competencies in teaching music that are essential for success as a music teacher. For musicians who are accustomed to working with abstract and intangible aesthetic experiences, this task will not only be difficult but also confusing.

## The Problem

The traditional method for teaching conducting in college music education curricula has used methods and texts that stress the authoritarian role of the conductor. These attitudes and procedures are a transference from professional performing organizations, and may not always be conducive to the best educational interest of students in school musical organizations.[4] It is believed by many prominent music educators that teachers of school music groups can encourage students to become more involved in the learning process (rehearsal) by creating a climate for teacher-student interaction.[5] The specific problem undertaken in this study was whether the effects of instruction in the techniques of interaction analysis would make a significant difference in the verbal teaching behaviors and attitudes of prospective school instrumental music education students studying conducting.

## Purpose

The purpose of this investigation was to gather and analyze data regarding the effects of instruction in the techniques of interaction analysis upon the verbal teaching behaviors and attitudes of prospective public school instrumental music teachers studying conducting. It is hypothesized that conducting students who are trained in interaction analysis becomes more indirect in their teaching styles, more flexible in their attitudes toward experimental teaching methods, and are consequently better able to use feedback from classroom observations in modifying their own teaching behaviors.

## Procedures

The experiment was conducted using music education majors enrolled in Music 335 (instrumental conducting), a required course for instrumental music education and music therapy majors at Michigan State University. Fifty-two (52) students were randomly assigned to one of the two sections. Section A (N = 27) was designated the control group and section B (N = 25) was designated the experimental group. The experimental group was taught by a professor in the music education department. Each section met five periods per week each lasting one hour in length.

The means of obtaining the data on the conducting student's verbal behavior at the end of the experimental period was the Rehearsal Interaction Observation System (RIOS), the same instrument used in the training of students in section B. This system was developed by Professor Robert L. Erbes of Michigan State University. The control group (A) studied the required conducting text and was subjected to the traditional (conventional) method of teaching conducting. The instructional mode was geared to the technical and physical aspects of conducting. An additional ten hours of conducting was added to the course requirements. The experimental group (B) used the same required text, similar teaching methods, and the same course content as section A. Instead of ten additional hours of conducting experience of section A, group B received ten hours in the theory, technique, and application of interaction analysis. Both sections were informed that the term's work represented a normal part of the conducting curriculum.

Group equivalency was established by administering two attitude scales. The Rokeach Dogmatism Scale Form E, and the Education Scale were administered to all subjects during the first class meeting. The Dogmatism Scale was used to study verbal behavior relative to a person's personality. It measures the openness and closedness of one's belief-disbelief system. The Education Scale served as a pre-post measurement of attitude toward traditional and progressive educational practices. The experimental design used in this study was the pretest-posttest control group design described by Campbell and Stanley.[6] A feature of the pretest-posttest control group design is that it provides for the control of all eight factors joepardizing internal validity.

The treatment consisted of one hour per week in the following activities: (1) Reading and discussion of interaction theory and application;

(2) learning of the categories; (3) coding practice using 3, 5, and 10 minute tape segments and (4) plotting matrices, computing and interpreting the data from the practice tapes. During the final week of the experimental period, each student from both sections participated in a 10-15 minute conducting and rehearsing a junior high school band. Each student's verbal interaction was recorded by the researcher and an expert in the RIOS technique.

At the end of the ten weeks, the two attitude scales were readministered to the total sample population. The data were subjected to the appropriate statistical treatment.

## Findings

Descriptive data for the sample on the Dogmatism Scale showed no appreciable difference in either central tendency or variability between the two groups. While some difference was noted in both the mean and variance on the Education Scale, it was not found to be statistically significant (Table 1).

Table 1

Pretest Means and Standard Deviations for the Experimental and Control Groups on the Two Attitude Scales

| Control Variables | RIOS Group (N=25) | | NON-RIOS Group (N=27) | |
|---|---|---|---|---|
| | Mean | S.D. | Mean | S.D. |
| Dogmatism Scale | 77.160 | 9.551 | 77.551 | 10.493 |
| Education Scale | 36.800 | 10.271 | 33.407 | 7.657 |

Table 2 shows descriptive data of the results (posttest) for the experimental and control groups on the Dogmatism and Education Scales. A comparison with pretest scores indicates both shifts in later central tendency and variance values. Of particular note, perhaps, is the increase in variability on dogmatism for both groups. The lower mean scores on dogmatism indicate a greater degree of openmindedness evident in both the experimental and control groups, but to a degree in the experimental group.

Table 2

Posttest Means and Standard Deviations for the Experimental and Control Groups on the Two Attitude Scales

| Control Variables | RIOS Group (N=25) | | NON-RIOS Group (N=27) | |
|---|---|---|---|---|
| | Mean | S.D. | Mean | S.D. |
| Dogmatism Scale | 69.593 | 11.081 | 72.960 | 11.319 |
| Education Scale | 33.960 | 8.965 | 31.593 | 7.094 |

To find out how well the experimental group had learned the techniques of interaction analysis through application of the RIOS technique, a final test was given to group B. This test consisted of viewing and coding a thirty-five minute video tape of a school instrumental rehearsal. Analysis of variance for the twenty-five (25) subjects of the experimental groups showed a reliability coefficient of r = .943 (between individual observers), and a reliability coefficient of r = .812 (for the average observations).

Hoyt has shown that reliability estimates can be obtained from analysis of variance components. While there seems to be no difference in this concept as applied to ratings, observations or to test scores, there is a difference in the data on which the computations must be based. The rationale for this formula will illustrate its application and why the results do not agree completely with those from other procedures intended to serve the same purpose. This procedure is explained in an article by Ebel.[7]

Table 3

An ANOVA Reliability Estimate for the RIOS Conductors on a 35 Minute Video Tape Test of Observer Agreement (N=25)

| Source of Variation | Reduced Sum of Squares | Degrees of Freedom | Mean Square |
|---|---|---|---|
| Grand Mean | 20838.334 | 1 | 20838.333633 |
| Total | 50928.236 | 299 | 170.328550 |
| V | 48164.556 | 11 | 4378.595961 |
| S | .031 | 24 | .001272 |
| S | 2763.650 | 264 | 10.468372 |

The intraclass reliability formula =

$$\frac{MSV - MS\ error}{MSV + df(A) = MS\ error}$$

$$r = \frac{4378.595 - 10.468}{4379.595 + 24 \times 10.468} = \frac{4369.128}{4629.828} = 0.9435$$

$$\text{reliability of average} = \frac{4378.595 - 10.468}{5378.595} = 0.812$$

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To test the effect of the four selected divisions of verbal behavior and the raw data concerning the attitude scales, the raw data were summed for each of the eleven categories and the pre and posttest scores on the two attitude scales were subjected to a multivariate analysis using a repeated measures design. For this analysis, both the experimental and control group must contain even number of subjects. The necessary number of subjects was eliminated from both groups by random selection.

There were significant differences for the main effect by groups and main effect of Dogmatism (to be expected because of dichotomization). The remaining side effects and interactions reported reveal no significant F ratios.

The individual categories within the major divisions were summed to give four composite scores: (1) Direct Teacher Talk (Nonsupportive); (2) Indirect Teacher Talk (Supportive); (3) Student Talk, and (4) Silence or Confusion. Table 4 presents the data for the four selected divisions of verbal behavior. As the conducting students and performance groups in both sections were observed in a ten minute rehearsal segment, the data were entered on a composite table for tabulation and statistical treatment.

Table 4

A Comparison of NON-RIOS Trained Conducting Students and RIOS Trained Conducting Students on the Frequency of Three Selected Divisions of Verbal Behaviors

| Division of Verbal Behavior | Section A NON-RIOS Conductors (N=24) | | Section B RIOS Conductors (N=24) | |
|---|---|---|---|---|
| | $\bar{X}$ | S.D. | $\bar{X}$ | S.D. |
| Teacher Talk | | | | |
| Supportive Behavior (Categories 1, 2, 3) | 8.4 | 2.9 | 6.1 | 2.4 |
| Non-supportive Behavior (Categories 4,5,6,7,8) | 73.2 | 8.5 | 73.8 | 8.6 |
| Student Talk (Categories 9, 10) | 6.4 | 2.5 | 3.7 | 8.6 |
| Silence or Confusion | 6.7 | 2.5 | 8.2 | 2.9 |
| (Category 11) | (not a part of the study) | | | |

An interesting and significant F ratio is noted in categories 9 and 10. Student Behavior when tested with dogmatism for unique interaction reveals a relationship between the amount of student behavior and the level of openmindedness as measured by the Rokeach Scale ($F = 5.160$, $p$ .02).

The final statistical treatment of the variables in this study was the Pearson Product-Moment Correlation. While one statistically significant correlation appears between Grade Point and Dogmatism (-.36), there is no evidence of any other significant relationships among the variables.

## Summary

The study attempted to test seventeen hypotheses. The null hypotheses rejected at confidence level of .001 or better are included in this summary. *Null hypothesis one* was rejected at the .001 confidence level indicating there was a significant difference between conducting students trained in interaction analysis and those not trained in the amount of verbal talk. *Null hypothesis two* was rejected at the .0001 confidence level. The finding indicates a difference in openmindedness between the RIOS and NON-RIOS conductors. RIOS training does, in fact, cause the student to be more introspective and sensitive to his effect on other people, therefore bringing about change in basic beliefs. *Hypothesis number eight* was rejected at the .0001 confidence level. A multivariate F test was performed on three test variables and the interactions between the variables. There was a significant difference in the amount of direct teacher talk of conducting student trained in the RIOS technique and those not so trained. *Null hypothesis nine* was rejected at the .0001 confidence level indicating that there was a significant difference in the amount of indirect teacher talk of conducting students trained in interaction analysis and those not receiving the training. A significant difference did exist in the amount of student talk in rehearsals led by conducting students trained in the RIOS technique and those students not receiving the training, therefore *null hypothesis ten* was rejected. The *eleventh hypothesis* was rejected at the .0001 level of significance. This finding is in keeping with the last three rejections since it represents data that are summative from the last three hypotheses, that the RIOS training experience does significantly affect the verbal conducting/rehearsal behavior of the young conducting students in this study.

## Conclusions and Recommendations

The data presented in the findings of this study indicate a clear trend with respect to differences in types of verbal behavior used by students trained in interaction analysis and those not trained. On the basis of these data the conclusions are as follows:

1. Students trained in I.A. using the RIOS used more indirect verbal behaviors and less teacher-centered behaviors in their rehearsals.
2. RIOS conductors were more consistent in their behaviors by displaying a greater balance between direct and indirect verbal statements.
3. Conducting students trained in interaction analysis used verbal behaviors that have been found to be associated with higher pupil achievement and more positive attitudes toward school.
4. The Non-RIOS trained conductors spent more than 30%-40% of the rehearsal time in categories 4 and 6 combined (informing and directing).
5. The Non-RIOS trained conductors were found to be more direct in their teaching than the RIOS trained conductors.

These findings are consistent with other findings and the notion held by many school instrumental music teachers that instrumental music teachers can create a climate for free student-teacher verbal exchange in the rehearsal setting.

## Recommendations

From the analysis of the data from the study the following are suggested recommendations:

1. The teaching of interaction analysis techniques as part of the regular conducting requirements.
2. The traditional teacher training process be altered so that prospective instrumental teachers might be placed in contact with students in large group rehearsals before student teaching or during the terms in which their method course requirements are being fulfilled.
3. Further replication of this research be done at Michigan State University and other teacher training institutions using the RIOS system and videotapes as a training technique for public school vocal music conductors.
4. A correlation study should be carried out involving various selected dimensions of verbal behavior, score reading (error detection) and interaction analysis training in order to find the possible relationship between each variable and teacher competency.
5. Student outcomes under conductors with varying interaction patterns should be studied.
6. Similar studies should be conducted in other areas of music, such as choral, small ensembles and possibly general music.

Finally, the conclusions of this study indicate that the observable aspects of large group music instruction can be altered through training. Therefore, prospective instrumental music teachers who become aware of their verbal teaching behaviors can benefit from Interaction Analysis and thus increase teaching efficiency and, hopefully, student achievement.

## Footnotes

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# THE CHILD-CENTERED VS. THE ADULT-CENTERED RATIONALE--A DUALISTIC APPROACH TO THE USE OF PHILOSOPHY IN CURRICULUM DEVELOPMENT WITH SPECIAL APPLICATION TO MUSIC EDUCATION

Rene Boyer
Cincinnati Conservatory of Music

## Introduction

There is an apparent controversy which has existed among music educators for many years concerning the basic criteria to be considered when dealing with the organization of curricula. As a result of this controversy, a certain degree of complexity in educational thought has become the norm as has been exhibited in various texts which treat the development of curricula as well as the actual curricula which have been historically developed.[1]

Some of the major issues which have motivated these crucial differences among educators involve the answers that have been given to the following questions:

1. Who or what should be the organizing center of the curriculum?
2. What are the requirements or principles of the organizing center upon which the curriculum is to be considered?
3. What is the nature of the attitudes, skills, and knowledge to be learned?

Differences in the three issues outlined above can be said to have their origin in those political, social, religious, and economic trends that continuously and variously influence the said issues, and, as a corollary, whose answers can be clearly recognized as being the major factors which are subsequently reflected in not only the approach taken to the development of the various curricula, but also in the resulting methodology and pedagogy which is used in the execution of those curricula.

As will be observed in the following paragraphs, controversy in educational discourse is that phenomenon which, in fact, undergirds the decisions taken regarding these above issues. Moreover, it is such controversy that most often causes the basic conflict in the priorities taken concerning the major aims and objectives of any educational curricula and that determines the material which is contained in it.

However, this controversy can be reduced and categorized in terms of two points of view which can be considered as the very essence from which the plethora of educational theories, used by those persons involved in the development of educational curricula, have stemmed.

This paper begins by giving a brief account of the early development of the curriculum in this country as a means of making the reader cognizant of the numerous theories that have come to the fore in an attempt to provide a solution to the basic questions surrounding the development of educational curricula as outlined in the initial paragraphs of this study. Such background will serve to bring into focus the controversy that has existed and still exists in this area of education. We shall then present the two points of view referred to above, since we believe that they, whether taken consciously or unconsciously, represent the adoption of contrasting *a priori* elements basic to the direction the development of curricula has taken in past years. These points of view will in turn be related to two of the major philosophical approaches historically accepted as basic views that have been utilized in the development of various educational curricula in order that we may see their relationship to the two categories here proposed. Finally, we shall look at this system as it concerns the specific area of music education and its supporting curricular ideologies and methodologies.

These viewpoints have in passing been referred to by several writers as the child-centered and the adult-centered rationale for curriculum development.[2] Such terminology will be employed throughout the remainder of this paper in which our primary aim will be to facilitate the task of the educator by providing him with a theoretical approach for disentangling the host of philosophical theories--a task which is necessary if the curriculum is to be cogently and successfully constructed.

## Historic View of Curriculum Development

Until the time of the historic social and industrial revolution that occurred during the late nineteenth and early twentieth century, the curriculum was thought of and written of as a fairly static solution to the needs of social systems. Since the social systems were subject to relatively slow change, the curriculum could, without difficulty, be worked out as a definite solution to the educational problem of a given society. The concept of the curriculum as a constant and perfectable instrument was accepted and acceptable. As a result, we note here that status rather than change dominated educational philosophy and practice, a condition which is quite the reverse in our present times.[3]

The revolutionary changes that took place in the latter part of the nineteenth and the first part of the twentieth century however, were so violent and sudden that they evoked not only a change in the methods of manufacturing goods but also in the basic social institutions and processes--notably the school and the church. Educational change henceforth became a constant in societies in the sense that form and content were continually changing to some extent. Nevertheless, those educational leaders and advocates of the system as it existed prior to this time considered change as a negative factor and, as a consequence, proceeded to use as the primary basis for the establishment of schools and school systems, the already existing philosophical thinking along with the regularization of current curricula and the perfection and spread of traditional practices of teaching.

The twentieth century, on the other hand, with the turbulent changes brought on by the newly industrialized and urbanized society, seriously challenged the validity of the school curriculum. The usefulness of the traditional elementary school curriculum, for example, which was based on the simplest elements of moral training and literacy skills--the 3 R's as they were so commonly referred to--began to be questioned by many people. Even more vigorously criticized was the college-preparatory curriculum of the secondary school.[4]

Moreover, the development of experimental psychology and educational philosophy in the early decades of the twentieth century had a definite impact on the processes that obtained in the school and the classroom as well as on educational objectives and curriculum patterns. The result of these developments was the widespread modernization of curricula. This formed one of the several components of the Progressive Education Movement, a movement which came into focus during the years subsequent to World War I and led to what was considered to be the initiation of a more rational approach in educational planning and curriculum development.

Cremin comments about the initial stages of this movement when he states that:

> Actually progressive education began as a part of a vast humanitarian effort to apply the promise of American life . . . to the puzzling new urban-industrialized civilization that came into being in the latter half of the nineteenth century. The word Progressive provides the clue to what really was: the educational phase of American Progressivism writ large. In effect, progressive education began as progressivism in education: a many-sided effort to use the schools to improve the lives of individuals.[5]

It is to this point that we wish to address our discussion since it was to the philosophy of this particular movement that we have credited many of the various contemporary ideologies which are currently held in regard to the development not only of the general educational curricula, but of music educational curricula as well.

A more detailed explication of the constituent elements of the Progressive Education Movement is provided in the statement by Schaeffer who outlines certain of its salient characteristics as follows:

> (1) that education must take into account the developmental needs of children, (2) that learning cannot be externally imposed but must involve activity of the mind of the learner, (3) that knowledge is gained through participation in activities of social life, (4) that education must take into account the needs of society, (5) that the curriculum and the teacher must take account of individual differences in the learners, and (6) that curricular decisions may be improved by the application of the scientific method.[6]

These factors which have been outlined by Schaeffer can be thought of as comprising that approach to education which is characterized by a keen interest in the developmental needs of the child. It is this aspect which not only characterizes the major focal point of the entire Progressive Education Movement, but also serves as a factor in education which provided an alternative approach to curriculum development and as such which paved the way for the apparent schism in the attitudes and values that were subsequently adopted by educators, administrators, teachers, and curriculum developers. As a result, such a schism becomes a crucial concern to the educator when deciding whether or not he should adhere to the more traditional ideology of education which seemingly places its major emphasis on all else save the consideration of the felt needs of the child, or whether he should follow the more progressive views that emphasize that the developmental needs of the child be given priority in the construction of the curriculum and its accompanying principles, guidelines, aims and objectives. In the following pages we shall discuss this apparent schism in terms of the two approaches that were mentioned earlier in this article--child versus adult-centered rationale.

## Adult-Centered Rationale

The adult-centered rationale is based on the conviction that, if the child is to develop into a civilized human being and a useful citizen, he must first be disciplined by means of methods and materials selected with reference to the standards of adult society rather than the felt needs or interests of children.[7]

As a corollary of the above, an adult-centered curriculum would focus upon enabling the child to acquire the needed tools to participate in the already established society and with providing the means for the child to become familiar with the greatest ideas and objects that man had created.[8] The major objective of one who has developed this rationale, is that the child must become that type of adult desired by society and in order to do this, he should acquire the outlooks, knowledges, and skills needed to exhibit these qualities.

William T. Harris, one of the first American educators and philosophers, concluded that "the school is an agent for preserving inherited values and adjusting man to society."[9] According to Harris and subsequent advocates of this particular type of program, in order to accomplish the desired objectives, the curriculum should consist of logically organized subject matter, selected by adults. One of the major functions of the school is to transmit impartially and objectively this verified knowledge regardless of whether the subject matter offered is of immediate value to the student or not; for knowledge, if properly stored, will inevitably be retrieved for subsequent usage. In short, future goals are expected to supercede present needs.

Therefore, the primary content of any curriculum contains what the student should learn and emphasizes even further, what he must learn. The subject matter content is based upon the logical sequence of solid subjects which are relatively unchanging and do not depend, to any great extent on a changing society. If we observe the Colonial period in our history for example, we find that religious subject matter received primary attention when considering the program of study. It was important that the child be given an education that would mold his entire character into that desirable by the particular society in which he would someday serve as an important part. Consequently, when viewing an early colonial curriculum, emphasis is placed on reading, writing and arithmetic. The main objective in education was to prepare the individual, through a process of familiarization with the content of the Bible, to become that kind of citizen whose character, outlook, and values were molded by the doctrinal stipulations of that Book.

If examined historically, the adult-centered rationale behind curriculum development becomes evident in the beliefs concerning man's nature, which are discussed by the two dominant traditional philosophies, Platonism and Aristotelianism.[10] These two philosophies posited the concept of man's dual nature by considering that man is composed of body and soul or mind. The mind, according to these philosophies, is the knowing aspect of man's nature and is thus superior to body (matter), both as to its nature and its governing function, in spite of the Greek and Roman notion of mens sana in corporo sano.[11] The grasp of this belief is essential for understanding classical education as well as current educational conservatism which, in essence, are both based on an adult-centered rationale for the construction of its curriculum. This view asserts that only "academic subjects" are worthy of the name education; any activities involving the body--such as manual skills, crafts, and vocational preparation, are not education but training. Only activities of the mind designed to develop the rational part of the person are the most truly educative.[12]

Another belief espoused by some conservatives which appears important to the examination of the origin of the adult-centered rationale for the development of curriculum, involves the fallen nature of man. The view that man is a very important being played a major role in the school's attitude toward pupil behavior. Obviously, as a result of this thinking, the child would not be allowed to do just as he pleased, since he would often choose evil rather than good.[13] One of the chief supporting statements for this perspective of curriculum development is advanced by Horne who wrote:

> It is better to center education in ideals for children and the race rather than in children themselves. After all, children are immature, dependent, and plastic members of the race . . . Ideals are the norms for all human experience, including that of children.[14]

We might conclude that under a traditionally conservative type of curriculum, the major goal is the development of an individual who can adapt to the idealistic society by way of being programmed through the aforementioned processes. The process of learning has been primarily, though not exclusively, one of "absorbing" knowledge to the limit of one's capacity. In this way, learning is designed to give structure to what formerly was in chaos. The ever-increasing acquisition of this concrete, solid, and unchanging subject matter, presented in a logical sequence, may not seem relevant until the individual has matured to adulthood. However, this method of approaching the education of the child, forms, in effect, the major premise of those who espouse the adult centered rationale to curriculum construction and provides the cornerstone of their philosophical objectives.

## Child-Centered Rationale

The advocates of this group take an almost diametrically opposed view towards the formulation of curriculum ideals. The ultimate purpose of education in a democracy, they argue, is the development of the individual. There appears to be at least two significant variants to this theory. The first holds, in effect, that the primary purpose of education is that of preparing the individual to achieve maximum social and economic success. This differs from the adult-centered perspective in that it seeks to utilize public education as a means of aiding individuals to rise above the social and economic status in which they would undoubtedly remain if guided by an adult or society-centered program. The second point of view is rooted in the individualistic conception of democracy and therefore is that variant which is most commonly considered as the "child centered school." It holds that education, in both purpose and content, must be based on individual needs, capacities, and interests primarily in terms of economic and social success.

The proponents of this school argue that an education built upon adult purposes and interests is inadequate. Children are not considered as small and immature adults as earlier implied by Horne, but persons in their own right. As such they have capacities, needs, interests, and purposes of their own, which can be ignored only at the risk of retarding the development of intelligent and healthy personalities. Hence, the educator must realize and recognize that the needs and capacities of children are different from those of adults. Moreover, this group contends, that, while these capacities, needs, and interests exist among children at various levels of maturation, it is true that every child is in some sense unique. Children, as well as adults vary widely in their interests, abilities and temperaments. To insist that every child pursue the same educational program is committing a crucial error in the development of that child-

Accordingly, the child-centered educator argues that the curriculum can not be derived solely from the demands and requirements of a relatively unchanging society without doing damage to the normal processes of maturation and to the facts of individual differences. Learning properly understood, is not a mastery of the product of other people's learning but progressive growth in the intelligent direction of purposeful activities. The heart of the curriculum should therefore consist of a wide variety of purposeful activities based on the present capacities, interests, and needs of the learner. The demands and requirements of society must naturally be taken into account and the educator must never forget that his primary duty is to help the child as a member of society, at any stage of development, in order that his capacities and abilities may reach their fullest potential.[15]

A brief background of the child-centered rationale. A definite movement towards the child-centered rationale is said to have begun with Jean Jacques Rousseau (1712-1778), who was among the first to advocate that consideration be given to the nature of the child. In opposition to the conservative view of the fallen nature of man, the imperfection of man, and the need for the control of the activities of the child, Rousseau emphasized that, "God makes all things good,"[16] therefore man is by nature good. Hence, according to Rousseau, in the early development of a child, the main contribution that the schools should make is to see that the child is not "spoiled" by formal education.[17] The educator should view the beginning stages of education in terms of experience--the means by which a child may best learn.

Johann Heinrich Pestolozzi (1746-1827) was also instrumental in fostering development of the child centered movement. He felt that education consisted of guiding children into a natural and orderly unfolding of their innate capacities. Not only did he believe in the adaptation of teaching materials to the child's ability level, but also in the adjustments of pedagogy to fit the ability and maturity of the student.

Perhaps the most important contributor to the child-centered movement is John Dewey. Dewey has been recognized as the "Father of Progressive Education."[18] The purpose of education, according to Dewey, was growth. The inquiring and reflective mind were the goals of his educational program, and no fixed habits or values were to be allowed to hinder this growth. In summary, the salient concepts associated with John Dewey which concern us here are:

1. The school curriculum should emphasize activities that cause children to work with "hand and brain."
2. The democratic way of life is the best way, for it allows for the full development of all individuals, and all individuals are of value.
3. The school should become a miniature community with the same sources to stimulate and interest the youngsters.[19]
4. The scientific method should be a basic concept in curriculum construction.
5. Truth is flexible.

Dewey further states in support of his concepts concerning the growth of the child that:

> Growing is not something which is complete in odd moments; it is a continuous leading into the future. If the environment in school and out, supplies conditions that utilize adequately the present capacities of the immature, the future which grows out of the present is surely taken care of.[20]

## The Philosophy of Pragmatism

We shall continue our discussion by treating Pragmatism, an essentially American philosophy which parallels in its educational aspects the following characteristics of the Progressive Education ideology. Like the movement, it had its focus on experience-centered type curricula and

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broke away, at least theoretically if not practically, from the traditionally-Europeanized-authoritative type of methodology. The choice of Pragmatism is substantiated by the fact that its doctrine holds, in essence, that a statement can be found true only when and as it is found workable in action. In other words, it is said that a pragmatist in education is one who believes primarily in "learning by doing."

Although the scholars who have been firm in their positions toward this particular philosophy have not necessarily been in total agreement with one another, the writer wishes to point out that the general scope of this particular paper does not allow for an in-depth examination or explanation of every position which has been held, past and present, by the numerous educators who have at one time or another in their careers, adhered to the pragmatic doctrine. We, however, shall proceed by outlining certain germane ideas which are common to those educators who are advocates of this theory. Their unanimity can be more clearly understood if we first clarify the pragmatic opinion on what it means to act intelligently, or in other words, a more sophisticated means of asking: What is meant by "learning by doing?" McMurray explicated his views on this matter when he outlined:

> To act intelligently is: (a) to act deliberately, with awareness of justified intent; (b) to act in the light of consequences foreseen; (c) to control one's immediate feelings and desires in their effect upon conduct by consideration of longer range desires and goals.[21]

From this it can be concluded that pragmatism is a theory about human action as guided by cognition of consequences, a theory of deliberate or rational self-control, of intellectually achieved continuity in behavior. The writer however wishes to add to this definition that, the very essence of pragmatism, as developed and envisioned by such pioneers as Pierce, James, and Dewey, lies in the

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concept that ideas are instruments for change and that if an idea does not bring about some kind of change, whether it be in the mind of the person or society in general, then that idea is not an idea worthy of consideration and in fact should not be thought of as an idea at all.

It is moreover the continual reorganizing, restructing, and transforming of experiences that is essential to the pragmatic concept of growth and development. Regarding the first of these--the aspect of organization--James wrote:

> Education, in short, cannot be better described than by calling it the organization of acquired habits of conduct and the tendencies to behavior.[22]

Dewey reinforces this idea when he states:

> We thus, research a technical definition of education. It is that reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience.[23]

Hence, it can be seen that the pragmatic view held toward the concern for growth in education is quite similar to those views held by those educators who propose that the child be the focal point of the curriculum. The relationship between the pragmatist's point of view and the child-centered approach is emphasized by Don Chen-Chu when he writes:

> Pragmatists are united in the conviction that each child is a unique being and each unique being is born with multi-potentiality. Each child should be nurtured and should grow systematically in all aspects to the maximum. Physical, mental, social, moral, and spiritual elements are all important, and each should be fully developed.[24]

Even though the emphasis placed on developing the child as a whole, as evidenced by the above quotation forms the major focus of the child-centered approach, pragmatists also give much attention to the society of which that child is a part. About this relationship between the child and the society Dewey writes:

> . . . the primary basis of education is in the child's powers at work along the same general constructive lines as those which have brought civilization into being.[25]

Thus it can be said that a pragmatic curriculum is grounded in the needs and the interests of a child's life, a concept to which additional weight is given by Kilpatrick who poses the rhetorical question:

> How shall we understand the term curriculum? It is the whole living of the pupils or students so far as the school accepts responsibility for its quality. We are thus back again to living and its quality.[26]

He further comments, "I would have the school start with its children wherever they are and help them first, to get the wholesome and vigorous living under way."[27] The results of these observations are evident in Kilpatrick's program which he called the "emerging curriculum." There he carefully outlined the pragmatic ideas concerning curriculum as follows:

> . . . I should have the school work at all times, in season and out, (1) to raise as best it could the quality of living at each age level; (2) to make this actual living grow up into all-round living . . . (3) to develop the creative aspects of living as the finest single test of success.[28]

Now that we have clarified the concept of a child-centered curriculum through reference to the observations of the pragmatists cited above, we shall continue by pointing out that the child's personal experience is also of great significance to the school program. As initially stated, the curriculum is any experience that is educative and in which the best subject matter is genetically and vitally derived from and integrated in the experience of the learner. The real essence of curriculum, according to Dewey, is that of "moving from the child's present experience out into that represented by the organized bodies of truth that we call studies." Regarding the utmost significance of experience, Dewey stated that:

> The positive principle is maintained when the young begin with active occupations having a social origin and use, and proceed to a scientific insight in the materials and laws involved, through assimilating into their more direct experiences the ideas and facts communicated by other who have had larger experiences.[29]

The role of experience in the pragmatic curriculum. Having established the important concern for experience as a necessary component to the pragmatically based curriculum, we are now ready to ask the question? What kind of life experiences of the child are considered most essential? Pragmatists state definitely that it is the "social" experiences of the child's life. Regarding social experience, a central element of the curriculum, Dewey comments that: "The subject matter of education consists primarily of the meanings which supply content to existing social life. The continuity of social life implies that many of these meanings are contributed to present activity by past collective experience."[30] In order to better understand Dewey's ideas on social life and curriculum, we should note that, ". . . the social life of the child is the basis of concentration, or correlation, in all his training or growth. The social life gives the unconscious unity and the background of all efforts and of all his attainments."[31]

Taking into consideration the fact that pragmatists, being truly "practical" in their outlooks toward life in general, tend to build their curriculum admittedly on the every day needs of the students in the society, we shall therefore discuss their support of the utilitarian curriculum. According to the pragmatists the basic question that must be answered practically when dealing with a curriculum of this nature is: Does it help the student live more successfully, adjust more adequately to the demands of life?"[32]

Furthermore, a pragmatic curriculum is used for problem solving. What the pragmatists ask of the curriculum is that new techniques for new life problems be developed. All subject matter therefore should provide the teacher with opportunities for training the pupil in scientific thinking for problem solving. Thus, the curriculum that is made up in advance is not considered a curriculum, but rather a mere course of study or suggestions of things that might be studied. The real curriculum is what knowledge the children use to solve problems; it is a curriculum in action. Information becomes knowledge when it is used to solve problems.

For a clearer understanding to the utilitarian or pragmatic curriculum, we should note that pragmatists start work from things that are meaningful to the child. They look beyond the immediate and concrete. As McMurry wrote:

> . . . a good school program is one which leads from an early interest in solving problems of an immediate, localized and concrete sort to a more mature interest in solving problems which arise through intellectual curiosity and a desire for abstract knowledge.[33]

Lastly, the pragmatic curriculum is experimental. In criticizing the static curriculum Dewey wrote:

> Learning here means the acquisition of what already is incorporated in books and in the heads of the elders. Moreover it is that which is taught as a finished product, with little regard either to the ways in which it was originally built up or to changes that will surely follow in the future. It is to a large extent the cultural product of societies that assumed the future would be much like the past, and yet it is used as educational food in a society where change is the rule, not the exception.[34]

The pragmatists would therefore, according to the criticism of a static curriculum as expressed above, avoid in curriculum construction, the rigid requirements, inflexible boundaries, mechanical standards and preconceived solutions. They instead would propose a changing curriculum, because society continually faces new cultural, social, vocational, and psychological needs.

Conclusion. It should therefore be evident from the above discussion that the pragmatist's approach to education and hence its view of curriculum construction falls squarely within the category which we have defined as child-centered. The emphasis placed on developing the child as a whole, which forms the major focus of the child-centered approach is clearly evident in the concepts of education outlined by some of the major pragmatists. They not only stress focusing on the development of the whole child, but, more importantly, seek to incorporate experience as one of the prime means of insuring that growth.

Just as the child-centered approach views its educational purposes as being to insure the present development of the child without regard for measuring individual needs and interests primarily in terms of economic success, so the pragmatists consider that education should serve the present life by cultivating the whole organism. It should attempt, not only to meet the present needs of the learner and strive to cultivate individuality, but also to help the child to analyze and comprehend future life needs. In short, the child should be developed in terms of his ability to act and think, regardless of the situation in which he finds himself. He should be able to conceptualize and base his actions on conclusions that are inductively as well as deductively drawn.

## Essentialism

Essentialism, a theory which follows many of the ideas held by the advocates of the adult-centered, traditional-type of curriculum, is the philosophy that has been chosen to represent the opposing view to that of the Pragmatists, who as we have observed, propose a more experience-centered kind of education. In the first part of this work, we made mention of the fact that although the Progressive Education Movement brought with it many new and innovative ideas, there were those scholars, teachers, and educators who refused to change their current mode of doing things.

That group of scholars who adhered to the traditional and time-tested approaches to education and curriculum development can be classified as Essentialists, and it is their views that provided the basic philosophical theory for this movement which we shall examine in greater detail in the following paragraphs. It should be noted however, that Essentialism had been extremely influential in the practices of many schools during the first quarter of the twentieth century, but due to a lack of innovative ideas at a time when American education was in need of revitalization--adaptation to an increasingly complex, industrialized, and urbanized society--it had become overshadowed by more progressive ideologies. Nevertheless, as a cogent theory, it has continued to have notable resurgences in recent decades. For example, during the Depression, it was revived under the leadership of such men as William C. Bagley and Herman H. Horne who were instrumental in the organization of the Essentials Committee for the Advancement of Education in 1938. Essentialism was also given another thrust to the fore when it was advanced to counteract the undefined feelings of dissatisfaction regarding the quality and goals of American Public education in the disquieted period following World War II. This move resulted in the establishment of the Council for Basic Education.[35]

With the launching by the Russians of the first Sputnik in 1957, the need for reducing what appeared to be an obvious deficiency in American education sparked the outspoken support for the Essentialist philosophy by outstanding advocates such as Arthur Bestor, H. G. Rickover, and Jacque

Barzun. Even the then President of the United States, Dwight D. Eisenhower, voiced his concern for the need to revitalize the existing system of education when he said: "I should like to see a return to fundamentals in both high school and the higher grades of the elementary schools."[36]

Today, the dissatisfaction with the direction, the practices, and the results of contemporary American Education continues to be expressed. Frank E. Armbruster, in the article entitled, "Math Lesson: Money Won't Buy Brains," which appeared in the Wednesday, September 7, 1977 issue of the St. Louis Post Dispatch, comments on the appalling decrease in quality of education as can be evidenced by the rapidly falling rates of literacy and lack of competence in the basic areas of learning. He complains about those who would be iconoclastic in their views on education when he writes:

> . . . many teachers began to treat children as if they were little adults and had the experience and judgement of grown-ups; they yielded to them the responsibility of determining when, if and--within a disturbingly questionable range--even what they would study.
>
> The innovators tended to see the current problems as unique and invulnerable to any past approaches to solution. Many attacked everything from homework and rote learning to curriculums (sic) that included the standard academic disciplines. As in the late 1940's they again were out to "educate the whole child"--and alongside such an objective, teaching children to read, write and solve math problems could seem insignificant, as well as demanding, difficult and dull.[37]

He then, as a true essentialist, defends the methodology of those educators and teachers of twenty years ago when he calls for a return to the basics. In the second part of his article he writes:

> These teaching methods are often thought to be "old-fashioned," as perhaps is the idea that the classroom essentially must have an orderly,

> well-structured, though by no means unhappy, environment.
>
> Many "innovative" educators may object to these methods, but until other proved techniques are developed, they are the only tried and true ones we have, and, at least in the lower grades, most current teaching staffs have the general knowledge necessary to carry them out . . .
>
> It is true that, in many ways, this means returning to a system we had about 20 years and three-quarters of a trillion tax dollars ago. This is certainly a bitter pill for us to swallow, but with the welfare of a generation of youngsters at stake, we may have no other choice.[38]

We should ask ourselves however, what are the basic principles, aims, and objectives of those who espouse the essentialist's concept of education. It can be generally said that the American Essentialist is primarily concerned with making the child competent in mind, body, and spirit through the cultivation of his intellect, the refinement of his taste, and the development of his moral character. They assert that the mastery of the "fundamentals" is imperative to the achievement of that quality of intellect, taste, and personality to which they allude. Consequently, Essentialists require that the school give priority to "solid learning" instead of acting as centers for civic development and charitable enterprise where focus is placed on the child's whims and fancies. In brief, they stress the need to turn to the teaching of what they consider the essentials, or in other words, the implementation of an adult-centered curriculum.

This leads us to inquire into the nature of these essentials. They can be considered as the basic virtues, ideals, habits, facts, and especially basic knowledge, skills (e.g., spelling, writing) and attitudes (e.g., industry, thrift) which have traditionally been thought of as the American, intellectual work ethic. The essentialists are fixed, constant, and relatively independent of time and place; they are recognized as indispensible to the common core of culture. These essentials are guides both for the success of the individual and the security of the human race and the state. The essentialists believe that it is these fundamentals which can be identified and that they should be taught systematically and efficiently to all students regardless of their place in society or their intellectual potentials.

The criteria used in determining the specific elements to be included in the curricular experience of the learner is based on those which have been proven effective in the past. The essentialists contend that the tried and tested knowledge and skills of people of other times have great authority, and that it is these which should be trusted. As John Ciardi stated: "The first course in any science is essentially a history course. You begin by learning what the past has learned for you. Except as a man entered the past of the race he has no function in civilization."[39] According to the reasoning of Essentialists therefore, traditions must be valued, not only because they are old, but because they are true and good. It is for this reason that they have been frequently referred to as the "educational conservationists."

School and the transmission and preservation of the essentials. According to essentialist philosophy, the diverse institutions within the society exist for the purpose of accomplishing different ends: for example, the home, the church, and the adult community carry great responsibility for the moral education of the young. Hence, they should not pervert the purpose of the school by using it to propagate opinion in preference to verified knowledge. Essentialists hold that the school's primary task is to establish for the child an anchorage of reference in the accumulated truthful experiences of the race. They assert that it is imperative to equip man with the exact knowledge and skills which will enable him to compete with nature in the battle for survival, and this is only possible if the central and the dedicated function of schools--to transmit impartially and objectively the accumulated verified knowledge--is properly carried out. The greater his comprehension of this knowledge, the more his power will be increased. In essence, the essentialists are saying, let the schools do what schools are supposed to do, i.e., the intellectual preparation of the child for adulthood and leave to other institutions those elements of the child's upbringing which, while important, are not really within the domain of the school.

In addition to the above, Essentialists see the transmission of knowledge and skill as an attempt to conserve rather than to reform the basic content and structure of the curriculum. They see the task of every school as helping the oncoming generation to acquire as much as possible of that cultural heritage which has withstood the test of time. To achieve this, it would be necessary for schools to eliminate the "non-essential, non-external elements" not valued in the past.

## Conclusion

The essentialists have claimed that the Progressive Movement was misguided since it failed to provide the child with a secure linkage to a body of proven truth and historical tradition. They consider informal education supplementary, incidental, inefficient, and even at times unnecessary. They also regard "training" for specific jobs, especially jobs involving manual skills, as being outside the domain of the school. This is where such critics as James B. Conant and the pure essentialists tend to disagree, inasmuch as Conant espoused the concept of the comprehensive high school which would put intellectual and humanistic studies on par with practical preparation for trades. Moreover, Essentialists believe in learning the exact and logically organized content of a curriculum, as well as in high scholastic achievement measured by rigorous standards. They are in accord with the adult-centered curriculum when they advocate that future goals supercede present needs.

In other words, for the student to be able to reach future goals in life and work, a strenuous effort is perforce needed. While interested in the development of intellectual originality and creativity, they nevertheless assert that especially in preparatory stages, individualism or "felt needs" on the part of the child must be sacrificed for the sake of developing a thorough background in what they consider to be the essential cognitive aspects of traditional education.

In spite of the innovative trends that have influenced American education in recent decades, it can still be said that the essentialists' educational postulates, their ideas regarding the function of the school, and their concepts of reality, truth, and values, all have had deep impacts upon curriculum, methodology, and administration.

A consideration of the essentialists' view of the curriculum would therefore indicate that it must contain those elements which, according to the principles outlined above, the student should learn and needs to learn. Deference should not be given to what they would like to learn. In other words, the Essentialist sees the curriculum, not as a collection of courses previously assembled, but rather as a logical sequence of solid subjects of studies. Every course however, must consist of the essentials which must be taught, even though their significance is not evident in the fulfillment of some immediate need. If the essentials learned are not useful in the present, they will be stored until the appropriate occasion arises for their usage.

The scope of this study does not allow for the treatment of philosophical concepts beyond the major ones already elaborated upon. Furthermore it seems unnecessary to attempt such an elaboration since a large number of those that would be treated can, in essence, be considered as extensions and/or variants of the ones previously expounded on. If we then take a synoptic view of the remaining philosophies, for example, Perenialism, Reconstructionism, Idealism, and Realism, it will be discovered that they are readily classifiable according to the dualistic criteria which we have developed earlier--at least as far as the educational implications are concerned. The facility of classification can be exemplified if we refer to the chart taken from Table 2-1 of Tanner and Tanner's book, Curriculum Development Theory and Practice.[40] This chart, as shown below, can be viewed as summarizing the main features of six philosophies of education and its subsequent usage in the development of educational curricula. If we add two new columns--basic philosophy, and our classification--to this chart, we can demonstrate that the philosophies there represented can be construed as variants of the ones we have discussed and as a result can be classified under one of our two categories, adult or child-centered. This goes hand in hand with the statement advanced by Monroe in his Philosophy of Education that:

> While different philosophies of education will still exist they will not be so many corollaries of divergent pure philosophies, but will make explicit the different conceptions of the value and aims of actual life held by different persons. It will be seen that different philosophies exist because men have in mind different ideals in life and different educational methods for making these ideals prevail.[41]

Now that we have completed the presentation of a dual concept of an approach to curriculum construction, along with two philosophies which, in their educational ramifications, can be thought of as being representative of that dual concept, we shall now turn our attention to the specific area of music education. We shall provide a brief examination of its historical development in terms of the kinds of philosophical approaches that have nfluenced the shape of its curriculum. It is important to point out that the philosophies of music education have been influenced in large measure,

| Philosophy | Controlling Aim | Curriculum | Method | Ideal of Learner |
|---|---|---|---|---|
| Perennialism (Essentialism)* Adult | Cultivation of the rational powers; academic excellence. | Liberal arts, Great Books. | Mental discipline; literary analysis. | Rational being guided by first principles; mind elevated above biological universe. |
| Experimentalism (Pragmatism)* Child | Reflective thinking for social problem solving; democratic citizenship; growth. | Comprehensive, unified, problem-focused studies, in democratic classroom setting. | Social problem solving through reflective thinking and democartic processes. | Autonomously thinking socially responsible democratic citizen; organism in biological continuity with nature. |
| Reconstructionism (Essentialism)* Adult | Building an ideal democratic social order (a practical Utopia). | Social problems, corrective programs scientifically determined for collective action. | Critical analysis of social flaws and programmatic needs for corrective action. | Rebel committed to and involved in constructive social redirection and renewal. |
| Romantic Naturalism (Pragmatism)* Child | Individual freedom to develop one's potentials | Learning activities based upon child's felt needs. | Laissez faire; free learning environment for artistic self-expression. | Unfolding flower |
| Existentialism (Pragmatism)* Child | Inner search for meaning of one's own existence. | Themes on the human condition; learning activities, free of rational constraints, designed to free the individual to find his own being. | Introspection (examining one's own feelings, impulses, thoughts) in a free learning environment. | Flower in search of meaning of its own existence |

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*The classification according to the two basic philosophies that we have used (essentialism and pragmatism) and the categorization according to the two rationales (child vs. adult) developed.

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not only by the various philosophical attitudes held in the particular society at large at a specific time, but also by the social, cultural, and economic factors foreign to the nature of music itself. The result is that there is a close link between the general philosophies and those of music education. These factors are important in viewing the development of this area which we shall proceed to give, restricting it to a consideration of this phenomenon in the United States since the middle of the nineteenth century.

## History of American Music Education

When music was first officially introduced as a part of the Boston Public elementary school program in 1838 by Lowell Mason, mental, moral, and physical discipline were the aims of the course of study. It can be said that these objectives were based on an adult-centered rationale, since the factors that were stressed had the functional aim of ameliorating the general state of musical illiteracy that obtained at that period. Emphasis was placed on music reading with the sacred and secular forms used reflecting those compositions and composers that were held to be of lasting cultural value. This continued during the latter years of the nineteenth century but soon met with the opposition of several music educators who contended that since music was designed to be heard, reading was an unnecessary as well as artificial aid to the common student of this art form.

During the last decade of the nineteenth century, the pedagogy of Herbart (a German educator), which involved the child-study movement, began to exert distinct and complimentary influences on American music education. Accompanied by an interest in perfecting teaching techniques, there was a concomitant concern for developing high mental acceptance spiritually rather than methodologically. This was in essence, the beginnings of a shift towards a child-centered approach to music education, in which the choice of subject matter became the direct outcome of the child's interests. The Progressive movement implied by these beginnings was crystallized in the Pragmatists and hence, child-oriented philosophies of James, Kilpatrick, and Dewey, which reflected new concerns for social efficacy and established a framework in which natural means of pupil activity and expression would evolve. Such an approach was the result of the democratic concept of education and life which held that every child should have the opportunity for social, constructive, expressional, and creative development. Rather than stress receptivity or the absorption of chosen data, emphasis was placed on activity in the learning process. As Leonhard and House succinctly state regarding this new development, its proponents held that:

> . . . education cannot be a process of factual assimilation, but of investigation and activity developing from the felt needs of the child.[42]

The pragmatists' approach was further strengthened by the Progressive education movement which had its greatest impact between 1918 and 1938, with a model which reflected a concern for the child rather than the subject. Thus, Progressivism in music education can be seen to have based much of its innovation on psychological evidence regarding motivation, learning, and individual differences and capacities. The child was no longer measured only from an adult perspective--in terms of what he might be and do as a contributing member of a democratic society, but also from the purely child-oriented perspective in terms of his maximum ability for total musical development.

Since the second half of this century, public school curricula began to undergo a period of reform and a corollary of this was that music educators were faced with the task of having to justify the inclusion of their specialty in the curriculum. As early as 1930, James Mursell had already provided "modern" music educators with some rationales for validating the inclusion of a program in music education. As Carroll Gonzo points out, he established four principles to justify his position as a tenable one. He held:

> First, that the music program is an organized opportunity for aesthetic experience; second, that it is an organized opportunity for social experience; third, that the development of technical mastery has a necessary place in music education; and fourth, that the acquisition of knowledge about music has a proper place in music education.[43]

The principles that characterize Mursell's philosophy have contributed much to the development of contemporary approaches to music curricula, many of which can be thought of as being "Gestalt" and consequently child-oriented in their perspective on the construction of music education curricula. Examples of the types of music curricula which have subsequently employed this Gestalt approach are the Contemporary Music Educational Program, its subsequent outgrowth--the Hawaii Music Program, and the Manhattanville Music Program, which are all child-oriented and thus represent the most contemporary, innovative applications of philosophical perspectives to curriculum construction.[44]

This brief evaluation of the historical development of music in the United States has tended to indicate an initial period of adult-centered orientations followed by the inception and development of a child-centered approach that came about with the rise of the Progressivists during the second decade of the present century. Subsequent to this however, the traditional-adult-centered approach manifested in philosophies like essentialism and reconstructionism, have provided reactions against some interpretations of the Progressive movement. This tendency towards a traditional stabilization of an approach to curriculum development was in turn reacted against by further innovative child-centered approaches.

## Some General Guidelines and Principles

If we were to attempt to propose guidelines for the development of a music curriculum which takes into account both the theoretical and historical postulations made thus far, our purposes would best be served by the adoption of an eclectic approach. Such an approach would attempt to distill from each of the philosophical orientations outlined via the two categories established, those characteristics that would best foster the development of both an awareness of the importance of music as well as the ability to appreciate and conceptualize about diverse trends and expressions of this art form.

Although the element of conformity to a society is an important feature necessary to functioning in that society, this writer believes that when viewing the purpose of education and hence, of curriculum development, the evolution of a well-rounded individual should take precedence over the foregoing idea. If the emphasis is placed on developing the whole individual, and within that individual, the ability to conceptualize logically, then the ability to adapt with a minimum of difficulty should follow almost naturally. Of course, when we make reference to the idea of conformity, we are immediately led to think in terms of the adult-centered view which adopts as its major approach the imparting of those skills and tools with which the child should be equipped if he is to become a successful participant in the given society of which he is a member. However, we prefer not to think of such skills and tools as being representative of pre-established forms which the learner is expected to assimilate. Rather we would prefer that the child be given those skills and tools that he could presently as well as subsequently use in any experiences that he may encounter. In short, our primary aim is that he should develop that ability to conceptualize.

This ability to conceptualize does not eschew necessary the acquaintance on the part of the learner with materials that have come to be considered, according to a traditional viewpoint, pertinent to the insuring of cultural continuity both in terms of acquisition of knowledge and shaping of personality. Rather, such materials will be presented as a part of a total experience and will thus acquire a degree of realitivity that allows for personal interpretation and judgement in relation to other aspects of that experience. In this way, the tendency towards conceptualization as well as the development of critical ability will be fostered and should result in a more rounded individual whose appreciation of the particular study, music in our case, will be sharpened.

With regard to those subjects which are considered basic components of the general education curriculum, the emphasis placed by the adult-centered proponents on the communication of "organized knowledge" have always tended to exclude those areas that involve vocational training and de-emphasize the fine arts. We believe however, that a greater degree of balance should be introduced, not only by placing more emphasis on these latter areas, but also by stressing the aforementioned ability to conceptualize, which would make for the manipulation of such verified knowledge to the best advantage of the learner. This procedure would equip the student to meet successfully his present needs, as well as provide him with the capacity to derive an appreciation of the past needs of the society and formulate his own conception of his future needs.

The considerations that we have postulated above represent an eclectic rendering of ideas derived from the exposition of the philosophies treated in the two categories we have developed in that they are based on a concept of the child which can be outlined as follows. He must be thought of as being at one and the same time an individual in his own right needing to develop and express his own personality, as well as a future adult-functioning member of the society to which he belongs. This requires that a sense of balance be introduced into both the planning and the execution of any curriculum that will affect his education in such a way that he is insured success in meeting the demands of his environment.

The application of these general principles to the specific area of the construction of music educational curricula would tend to develop and stress the following factors. First of all, we would consider it necessary that such a program should be directed towards creating in the child, not only an awareness of the historical data associated with the evolution of music in the form of organized facts, but also the ability to conceptualize, be creative, and hence, arrive at valid conclusions regarding different manifestations of this form of expression. In other words, these several aspects of music need to be presented with equal emphasis if the child is to develop any degree of aesthetic sensitivity towards the art of music. Secondly, such ability would of necessity involve the communication to the student of certain tools and skills related to this area of study. The inculcation of these however, should be approached from what could be termed a "Gestalt" perspective, since a curriculum planned from this point of view would take into consideration the total musical development of the child.

The implications of the development of the dual concept of education and the approach to the construction and execution of a curriculum based on a "Gestalt" perspective will be evident in the new facility that should be afforded the administrator and music educator in the planning of that curriculum. The streamlining of the various philosophical approaches to education and their summation in terms of the two rationales established will allow those concerned to develop a clearer perspective of the role of music education within the general curriculum, approach the planning of the music program with a keener focus, and formulate strategies for its implementation that will insure a continued interest in this area of education on the part of the student far beyond the halls of learning of any educational institution. It is to these ends that this study has been directed.

## Footnotes

1. We suggest to the reader a comparison of the *Julliard Repertory Series*, edited by Claude Paliska and the *Manhattanville Music Curriculum* written by Ronald B. Thomas.
2. We refer to such authors as Tanner and Tanner, Eisner and Vallance, Virgil E. Herrick, Adrian Dupuis, B. O. Smith, and Doll--all writers in the field of educational curriculum.
3. There are of course many exceptions to this statement. There are still in existence various schools which choose to adhere to the more conservative oriented ideas and curriculum.
4. G. Robert Koopman, *Curriculum Development* (New York: The Center for Applied Research in Education, Inc., 1966), p. 2.
5. Lawrence A. Cremin, *The Transformation and the School* (New York: Alfred A. Knopf, Inc., 1961), p. viii.
6. Robert J. Shaeffer, "The Curriculum Retrospect and Prospect," in *Curriculum Retrospect and Prospect*, Robert M. McClure, ed. (Chicago: National Society for the Study of Education, The University of Chicago Press, 1971), p. 4.
7. Herman Harrell Horne, *The Democratic Philosophy of Education* (New York: The Macmillan Co., 1932), p. 32.
8. These so called "greatest ideas and objects that man has created" refer to a distillation of those virtues of the "permanent subjects" which have been embodies in the "Great Books" of the Western World. Robert M. Hutchins expounds on this idea in his *The Higher Learning in America* (New Haven: Yale University Press, 1936), p. 66.

9. William T. Harris (1835-1909) Superintendent of St. Louis Public Schools and the United States Commissioner of Education.

10. The conservative conception of truth is derived from the Platonic and Aristotelian conceptions of the nature of knowing. Both these systems of thought emphasized the primacy of intellect (or reason) in the process of arriving at either a code of ethics or a criteria for art.

11. The Latin phrase is translated into English as "A sound mind and a sound body."

12. Adrian M. Dupuis, *Philosophy of Education in Historical Perspective* (Chicago: Rand McNally and Company, 1966), p. 9.

13. Ibid., p. 13.

14. Herman H. Horne, *This New Education* (New York: Abingdon Press, 1931), p. 82.

15. William H. Kilpatrick, *Foundations of Method* (New York: Macmillan and Company), p. 32.

16. Jean Jacques Rousseau, *Emile* (London: J. M. Dent and Sons, Ltd., 1911), p. 5.

17. Lowell Keith, *Contemporary Curriculum in the Elementary School* (New York: Harper and Row Publishers, 1968), p. 29.

18. A famous Swiss educator who applied Rousseau's ideas of naturalism to a more structured concept of experimentation.

19. The Progressive movement was marked by a group of educators who attempted to use the methods of science to modify the elementary school curriculum lasting from (1876-1957 approximately). The movement began as a protest against the overemphasis of symbols and "book learning" in the curriculum and against the standardization of the curriculum.

20. Keith, *Contemporary Curriculum*, p. 33.

. Foster McMurray, "Pragmatism in Music Education," in Basic Concepts in Music Education, Nelson B. Henry, ed. (Chicago, Illinois: The National Society for the Study of Education, 1958), p. 33.

. William James, Talks to Teachers on Psychology (New York: Henry, Holt and Company, 1939), p. 29.

. John Dewey, Democracy and Education (New York: The MacMillan Company, 1932), pp. 89-90.

. Don-Chen Chu, Philosophic Foundations of American Education (Dubuque, Iowa: Kendall/Hunt Publishing Company, n.d.

. John Dewey, "My Pedagogic Creed," Journal of the National Education Association (December 1929), p. 13.

. William H. Kilpatrick, "Philosophy of Education from the Experimentalist Outlook," The Forty-first Yearbook of the National Society for the Study of Education, Nelson B. Henry, ed. (Chicago: University of Chicago Press, 1942), p. 76.

Ibid., p. 77.

Ibid.

John Dewey, The Child and the Curriculum, Philip Phenix, ed. (Chicago: The University of Chicago Press, 1956), p. 16.

John Dewey, Democracy and Education (New York: The MacMillan Company, 1916), p. 226.

Dewey, The Child, "My Pedagogic Creed."

Kenneth H. Hansen, Philosophy of American Education (New Jersey: Prentice Hall, 1960), p. 28.

Foster McMurray, "The Present Status of Pragmatism in Education," School and Society 87 (January 17, 1959), p. 14.

John Dewey, Experience and Education (New York: The MacMillan Co., 1938), p. 5.

35. In response to the concerns expressed by the various critics, who were opposed to the Progressive ideologies that were dominating the educational scene during the early and middle part of the 20th century, the Council on Basic Education was established in 1956 in Washington, D.C.

36. Benjamin Fine, The Modern Family Guide to Education (Toronto: Doubleday, 1962), p. 221.

37. Frank E. Armbruster, "Math Lesson: Money Won't Buy Brains," St. Louis Post Dispatch, September 7, 1977, p. 3D.

38. Ibid., September 8, 1977, p. 3D.

39. John Ciardi, Rutgers Alumni Monthly 34(2) (November 1954), p. 2.

40. Daniel Tanner and Laurel Tanner, Curriculum Development--Theory Into Practice (New York: MacMillan Publishing Company, 1975), pp. 66-67.

41. Paul Monroe, "Philosophy of Education," Encyclopedia of Educational Research (New York: MacMillan Co., n.d.), p. 697.

42. Charles Leonhard and Robert W. House, Foundations and Principles of Music Education (New York: McGraw-Hill Book Company, Inc., 1959), p. 55.

43. Carol Gonzo, "An Aesthetic Experience," Music Educators Journal (December 1971), p. 36.

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## ABSTRACT

# HARRY S. TRUMAN AND HIS PRESIDENTIAL ADMINISTRATION AS AN INFLUENCE ON MUSIC IN THE UNITED STATES
1945-1952

Cynthia M. Atwell, D.M.A.
University of Missouri-Kansas City, 1979

There has been renewed interest in Harry S. Truman and his Presidency during the 1970's, and the world has come to admire his decisive leadership and straightforward manner. Truman's personal life as well as his public life contained these same qualities.

Truman always considered music to be a very important avocation; in his opinion, musical study helped to build character and understand other people. By examining music's part in Truman's private as well as his public life, one can decide whether a Chief Executive's interest in a field such as music effects that industry in the United States during the years of his presidency.

Truman's early years were filled with books and music largely because of his mother's influence. Later, piano lessons and concert attendance molded Truman's love for music and his musical preferences.

While in the White House, Truman had a personal influence on music. He was an enthusiastic supporter of Inter-American Music Week and of American Music in general. He aided diplomacy with his piano performance at Potsdam, July, 1945. He was a loyal supporter of his daughter, Mary Margaret Truman and her career as a singer. Both Truman and his family attended concerts and personally chose the musicians who appeared during the only formal social season while Truman was President, 1946-47.

As Chief Executive of the laws of the United tates, Truman did not initiate, but did sign laws hat affected many phases of the music industry.

The long-playing 33 1/3 r.p.m. record and the 45 r.p.m. record came into existence during Truman's term of office and so did attempts by James C. Petrillo and the American Federation of Musicians to control the recording and television industries. The Lea Act was passed by Congress to police the musicians' union. Expanding music industries also provided problems for the American Society of Composers, Authors and Publishers and Broadcast Music, Inc., organizations that controlled licensing for radio and television stations and royalties for composers. The manufacturers of pianos and other musical instruments tried to free themselves from the bonds of wartime limitations on raw materials and an excessive excise tax on musical instruments. In addition, repeated attempts were made to pass legislation which would subsidize music, especially in Washington, D.C.

Truman's early musical training and subsequent interests were largely limited to the classical literature. Some research was done concerning popular music of the Truman era, but since a strong relationship could not be established, that material was excluded from the thesis.

## ABSTRACT

## RECOGNITION OF CHEST, HEAD, AND FALSETTO REGISTERS OF ISOPARAMETRIC TONES OF TENOR VOICES

Charles L. Beard Jr., D.M.A.
University of Missouri-Kansas City, 1979

The purpose of this study was to examine and compare listener-judges regarding their ability to identify Chest, Head, and Falsetto registers of isoparametric tones of tenor voices. Isoparametric tones are tones of the same fundamental frequency, sound pressure level, and phonemic category sung in different vocal registers. The data from the perceptual judgments of the listener-judges were analyzed to determine listener-judge accuracy in identifying Chest, Head, and Falsetto register isoparametric tones. The data were analyzed to determine whether the sex of the listener-judge or the university where he taught had an effect on the listener-judges regarding their ability to identify vocal registers and to determine whether the listener-judges based their judgments on comparison of registers of a given singer or judged the Chest, Head, and Falsetto register tones against a fixed standard.

It was also of interest to determine whether differences in perception were related to differences in the acoustic spectra of Chest, Head, and Falsetto register tones. In addition, the possibility of the tenors having modified the vowel in order to isolate registers was explored.

Each of four tenors was recorded individually in a sound treated booth while singing Chest, Head, and Falsetto register tones at the same fundamental frequency (350Hz) and sound pressure level. Each tenor was instructed to sing the vowel /a/ "ah" for approximately four seconds in each register. From each original Chest, Head, and Falsetto register tone a center portion of 2.5 seconds duration was spliced out (as an attempt to remove any cues that might be present in the onset and/or termination of a tone). The twelve tones, 2.5 seconds in duration, were copied so they could be presented in groups of three tones sung by the same tenor, but in which the order of presentation of or the number of registers could be varied. The final listening tape consisted of fifty items ("item" was defined as a group of three tones).

Seventeen listener-judges who were singing teachers on the faculties of six large Midwestern universities performed the judging task. Listener-judges after hearing each member of an item, consisting of three tones, were to label the order of presentation.

Acoustical analysis of the twelve tones was conducted with the use of a sonograph. Information from the sonograph frequency-versus-amplitude displays was converted to bar graphs as a means of comparing each tenor's Chest, Head, and Falsetto register tones. In addition, the possibility of the tenors having modified the vowel was explored by having a separate group of ten judges listen to the twelve tones and identify the vowel they had heard.

The interpretation of the results of this research study permits the following conclusions:

1. Register identification by singing teacher listener-judges agrees with the intentions of the tenor singers producing isoparametric tones in Chest, Head, and Falsetto registers
2. Although there was no statistically significant difference between the overall accuracy of groups of male and female listener-judges, male and female listener-judges appear to be able to identify most accurately the register which they use most often
3. Singing teachers grouped by university appear to possess varying abilities in identifying Chest, Head, and Falsetto register isoparamatric tones
4. The listener-judges appear to use comparison of registers of a tenor as a means of identifying registers
5. The position (Member A, B, or C) in the item of a register does not appear to effect the ability of listener-judges to identify registers
6. Perceived register timbre differences appear to be related, at least in part, to different distributions of energy in the acoustic spectra of Chest, Head, and Falsetto register isoparametric tones
7. Certain tenor singers appear to be unable to sing Chest, Head, and Falsetto register isoparametric tones without some modification of vowel

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## ABSTRACT

# JACQUES HOTTETERRE'S L'ART PRELUNDER /FOR WIND INSTRUMENTS/ A TRANSLATION AND COMMENTARY

Margareth Anne Boyer, M.M.
University of Missouri-Kansas City, 1979

Jacques Hotteterre (c. 1680-1761) is probably best known today for his Principes de la Flute Traversiere, ou Flute d'Allemagne, De la Flute a Bec, ou Flute Douce, et du Haut-bois (Paris, 1707), but he was also the author of a Methode pour le musette (Paris, 1734) and of L'Art de Preluder Sur la Flute Traversiere, Sur la Flute-a-Bec, Sur le Haubois, et autres Instrumens de Dessus, Avec des Preludes tous fait sur tous les Tons dans differ.$^{s}$ mouvem.$^{s}$ et differens caracteres, accompagnes de leurs agrem.$^{s}$ et de plus.$^{s}$ difficultees propres a exercer et a fortifier. Ensemble des Principes de modulation et de transposition; En outre une Dissertation instructive sur toutes les differentes expeces de Mesures, &c. (Paris, 1719), the subject of the present work.

This thesis presents a translation of the L'Art de Preluder together with an introduction discussing preludes for wind instruments in the early eighteenth century, and commentary in the form of footnotes to the text. Of particular interest are nearly 70 examples from the works of major composers which Hotteterre used to illustrate his discussion of meter, tempo, and rhythmic alteration and which have been identified by the translator.

The translation includes a transcription of the preludes and traits given by Hotteterre in his book. Other preludes by Hotteterre (from his Methode pour la musette) are given as an appendix. A photocopy of the entire L'Art de Preluder is also given to facilitate study.

## ABSTRACT

### A CONDUCTOR'S ANALYSIS OF AND PREPARATION AND APPROACH TO POLYRHYTHMS: WITH PARTICULAR ATTENTION TO POLYRHYTHMS IN CERTAIN OF THE CHORAL WORKS OF CHARLES E. IVES

Jack C. Groh, D.M.A.
University of Missouri-Kansas City, 1978

This study was prompted to a large degree by the lack of performances of several works by Charles Ives. It was determined that even though several of these works were highly praised by writers, actual presentations were few due to the performance difficulties presented.

The main purpose of this study was to examine one of the most formidable of these difficulties, that of polyrhythmic activity, and ascertain how this particular problem could be overcome.

An attempt was made to place the music of Ives in perspective generally with particular attention paid to the Three Harvest Home Chorales. This work chosen because of the high degree of polyrhythmic activity in the second of the three Chorales, where on several occasions there exists the rhythmic ratios of 9:8:6.

Several possibilities for the solution of the conductorial problems were presented and it was determined for the purposes of this study to concentrate on multiple time beating. In the case of the 9:8:6 ratio, if the conductor beat four in one hand and three in the other, the performers who had the six element could watch the three pattern and the performers with the eight element would watch the four pattern. The nine element could then be negotiated by watching the three pattern and thinking three beats for every two presented.

A set of exercises was developed using the Billotti Trinome, an instrument capable of producing three tempi simultaneously. Through personal experimentation and work with several control groups it was determined that, using this instrument and several other drills presented, most students could learn to beat these multiple tempi in a relatively short time. It was found however, that prolonged practice was necessary before this task could be performed with the facility needed to free the intellect to concentrate on other musical elements.

The practical application of the theory was tested in two situations; the first in a one hour rehearsal with the UMKC Conservatory Chorale and the second in prolonged rehearsal with the Schola Cantorum of the University of Arkansas.

The results of both of these rehearsal periods were successful, culminating in a performance of the Three Harvest Home Chorales with the Schola Cantorum, brass and organ on November 21, 1977. The rehearsal time spent on the second Chorale was approximately ten hours.

The most important contribution of this study has been to develop procedures, by which the time needed in rehearsal to prepare a work such as the Three Harvest Home Chorales can be reduced appreciably. The time required for the conductor's preparation is considerable. This time is justified, however, if a work of this nature can be prepared for performance with ten hours rehearsal.

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## ABSTRACT

### A CONCERTO IN G MAJOR FOR SOLO TRANSVERSE FLUTE, TWO VIOLINS, VIOLA, AND BASS BY LEONARDO LEO: AN EDITION

Judith Johnson Herndon, D.M.A.
University of Missouri-Kansas City, 1978

The eighteenth-century Neapolitan composer, Leonardo Leo (1694-1744), was known primarily for his comic operas and his choral compositions for the church. In no comprehensive list of his work

is there any mention of concertos for solo transverse flute and strings. However, manuscript number SM 3705, housed at the Oesterreichische National-bibliotheck in Vienna, Austria, does contain two such concertos. On the title page of each concerto is written the phrase "Del Sig: Leonardo Leo." Whether or not these concertos are actually by Leo or are only attributed to him by some copyist has not been determined. But in order to bring at least one of these works to light and to make it available for performance, an edition of it has been prepared as the second valume of this dissertation.

The concerto in question is for five instruments: "Flutraversiere [sic] Concerto, Violino Primo, Violino 2do, Alto Viola, Col Basso." The manuscript includes only parts; no score of this work has yet been found. All parts appear to be the work of one copyist, and in some respects they seem to have been prepared in anticipation of performance. However, there are not only many instances in which the manuscript is difficult to read, but there are also confusing and misleading notations. The present edition has been made in score form to allow for expedient study of the work, and it represents an attempt to clarify some of the discrepancies found in the parts.

The Introduction to the first volume of the dissertation contains a physical description of the manuscript. Chapter one is a brief outline of Leo's biography, presented with emphasis on the confusion about the facts of his life which existed for many years among his several biographers. Chapter two is an analysis of the Concerto. Chapter three is an explanation of the many editorial problems encountered in making the score and of the procedures involved in attempting to solve those problems.

Leo's Concerto is somewhat uncharacteristic of its time in that it contains four movements rather than three. In most other respects, however, it appears to be typical of the early eighteenth-century solo concerto idiom. It eatures the solo flute in a range to which it is ell suited and displays its technical capabilities ith a considerable amount of virtuoso-style figuraion and passage work. The soloist plays with the trings during most of the tutti sections. The tring parts provide a basically homophonic accomaniment for the soloist.

The Concerto adds to the repertoire of the arly eighteenth-century solo flute concerto, a epretoire which is enjoying a period of redisovery by performers and audiences alike.

## ABSTRACT

## CONCEPT TASKS YOUNG CHILDREN CAN MASTER

June Thomsen Jetter, Ph.D.
University of Missouri-Kansas City
Elementary Music Education

The music concepts an individual has stored able him to hear music and make musical decisions at are the basis of musical perception. How rly can acquisition of those concepts begin? at kinds of tasks can young children master? is study compared the achievement of four-yeards on twenty-two musical concept tasks when AVII del instruction was used for teaching. Fourar-olds in seven day care centers served as subcts in the investigation. Two to four musical ncept tasks were taught in each center by ten sic-teachers-in-training, one graduate assistant, d one experienced lay teacher. Data gathering s carried out between October 1978 and October 79. Subjects achieved mean posttest scores of x to nine correct responses out of a possible elve on posttests for all tasks except that of lf-step interval recognition. Children taught the experienced teacher had a significantly gher posttest score mean than children taught the graduate assistant on the first task these groups undertook. There was no significant

difference between means of these two groups on the next task assigned to them, showing that experience with AVII concept teaching is still an effect. No significant difference was found for experienced teacher and teacher-trainees on any task. The teacher-trainees had had experienced with the model teaching in their methods class. No significant difference was found for bassoon timbre identification for children instructed by four different teacher-trainees. Significant differences were found between posttest and retention test means on three of seven tasks, with two of those retention means higher than for the comparable posttest.

## ABSTRACT

### A PHOTOGRAPHIC, AIR FLOW DIRECTION, AND SOUND SPECTRA ANALYSIS OF TWO TRUMPET EMBOUCHURE TECHNIQUES

Walter Jerry Myers, D.M.A.
University of Missouri-Kansas City, 1979

The purpose of this study was to compare photographically upper and lower lip inversion of two contrasting trumpet embouchure techniques, to determine and compare air flow direction as influenced by these embouchure techniques, and to compare graphically the strength of partial tones within the tonal spectra of selected frequencies and intensities as generated by each embouchure system.

Two basic embouchure systems appear to have pervaded trumpet performance. One embouchure encouraged more horizontal air flow direction and was characterized and apparently influenced by less upper lip inversion and more upper lip overlap. The other embouchure encouraged downward air flow direction as influenced by less upper lip inversion and more upper lip overlap.

Four male trumpet performers, two of whom were adept with the first mentioned embouchure system l two with the second system, were selected as 't of a quasicontrolled system. To this closed tem the subjects were asked to add an extraneous ouchure technique or independent variable by mitting the upper lip to slightly overlap the tom lip while performing the desired tones itten C4, C5, and C6). The experimental embouchure provided a vehicle for testing altered relationships.

The data needed for solving the first sub-blem were six close-up photographs of each sub-t's embouchure (both control and experimental) le buzzing the desired three test tones on an trument mounted mouthpeice visualizer. Each ject was compared to himself for identifying ividual lip inversion changes.

Next, measurements were gathered of air flow ection produced by each embouchure setting while zing the desired frequencies on a trumpet mounted thpiece visualizer. A brass plate was mounted he mouthpiece visualizer in a position to split ugh the plane of symmetry. A small drop of water color was placed at the source of lip ation. A resultant flow pattern provided an e measurement above or below the horizontal axis he trumpet.

The data needed for solving the third subproblem (a) a tape recording of the subjects performing sample tones, (b) a harmonic analysis of the rded tones, and (c) a graph conversion of the onic analysis.

A Bruel and Kjaer microphone was mounted on a llel axis to the bell of the test trumpet. The ut of the B&K microphone was fed to a B&K sound l calibrator. The output from the sound level r was transmitted to a Beckman frequency counter imultaneously recorded.

Tape loops were made of the recorded trumpet , and were fed into a B&K frequency analyzer. utput of the frequency analyzer was delivered B&K graphic level recorder. The harmonic analysis was displayed on strip chart paper which was converted to line graphs.

The major conclusions which have been advanced from this study may be summarized as follows:

1. Measurements obtained via photographic data of trumpet embouchure settings can be related to the amount of upper and lower lip inversion utilized at selected frequencies and intensities.

2. Trumpet performers tend to experience changes in upper and lower lip relationships when negotiating register changes within a normal tessitura.

3. Increased upper lip inversion, more lower lip involvement, and a greater upward air flow direction can assist in producing low register trumpet tones.

4. Stronger relative pressure amplitudes of the constituent partials of trumpet sound spectra tend to be encouraged with the use of less upper lip overlap.

5. Trumpet embouchure techniques which utilize less upper lip inversion (more upper lip overlap) encourage lip movement during register changes.

6. Air flow direction may be influenced by the amount of upper and lower lip inversion employed when trumpet performers buzz selected frequencies and intensities.

7. Within accepted limitations, trumpet embouchure technique involving upper and lower lip relationships may be isolated and acoustically analyzed.

8. Both lips, not just the upper lip, can be significant vibratory membranes in the activity of trumpet tone production.

9. Trumpet embouchures using less upper lip overlap produced generally more even and smoother spectra than those embouchures using more upper lip overlap.

10. In general, trumpet performers who use e lip inversion, and who employ more horizontal flow direction tend to produce partial tones greater strength within the tonal spectra of ected frequencies and intensities.

## ABSTRACT

## A COMPARISON OF THE TONAL MEMORY SKILLS AND RHYTHMIC MEMORY SKILLS OF SECOND-GRADE CHILDREN

Patricia Harvey Powell, M.M.Ed.
University of Missouri-Kansas City, 1979

The problem in this study was to compare the ıal memory skills and rhythmic memory skills of cond-grade children when singing accuracy, read- level, sex, and age were controlled factors.

The 40 subjects for this quasi-experimental ıdy were selected from the 141 second-grade chil- en enrolled in the Buckner Elementary School, ckner, Missouri, during the school year, 1978-79.

The identification of accurate and inaccurate ngers was based on the ability of each child to ng the song selected for the Vocal Accuracy Test AT). An accurate singer was judged as one who tched the beginning pitch and sang the remaining tches with a degree of accuracy consistent with assroom performance standards as evaluated by the vestigator. An inaccurate singer was judged as e who failed to match the beginning pitch and/or iled to sing the remaining pitches with a degree accuracy consistent with classroom performance andards as evaluated by the investigator. Forty ojects, 20 accurate singers and 20 inaccurate ngers, were selected for further testing.

The Tonal Memory Test (TMT) consisted of 24 ired melodic items performed on a piano which re identified as "same" or "different." Melodic tterns based on major, minor, and pentatonic

tonalities and containing steps, skips, and repeated tones were constructed for these items.

The Rhythmic Memory Test (RMT) consisted of 24 paired rhythmic items identified as "same" or "different" and performed on a woodblock. Rhythmic patterns and time signatures were used which were representative of second-grade song material.

The data were recorded on a tally sheet and transferred to data cards for data processing. Data analysis was accomplished through use of programs from the Statistical Package for the Social Sciences (SPSS). Data were treated according to frequencies, one-way analysis of variance, cross-tabulation, multiple regression, *t*-test, and Kuder-Richardson formula 20. The level of rejection of a hypothesis was $p < .05$.

In this study tonal memory skills and rhythmic memory skills of 40 second-graders were compared when singing accuracy level, reading level, sex, and age were varied. The following conclusions were reached: (1) Tonal memory and singing accuracy were significantly related. (2) Tonal memory and reading level were significantly related. (3) Rhythmic memory and sex were significantly related. (4) There was a significant relationship between singing accuracy and sex. (5) There was no significant relationship between tonal memory and sex or age. (6) There was no significant relationship between rhythmic memory and singing accuracy, reading level, or age.

## ABSTRACT

## THE PHI FACTOR: MATHEMATICAL PROPORTIONS IN MUSICAL FORMS

James A. Rothwell, D.M.A.
University of Missouri-Kansas City, 1977

This study documents the presence of the golden ratio as a structural element in the forms of selected

ks from five musical periods--Renaissance to
ntieth-century. Detailed historical accounts
the golden ratio and Fibonacci series, and a
hematical derivation of the golden ratio and
common approximations are included as back-
und material. An overview is presented of
vious analytical work on the subject.

A method of proportional analysis is sug-
ted, based on observed roles of mathematics in
ic. Ten premises are stated which categorize
se observed roles and allow for other possi-
ities of structural organization. Two com-
ational aids--an analytical program and a table
historically significant numbers--are included.
gestions are given for the application of pro-
tional analysis to matters of tempo and time-
ucture interpretation.

Examples of proportional analysis include
following works:

Bach, J. S.: *Contrapunctus 2*, S. 1080. *Inventio 3*, S. 774. *Inventio 8*, S. 779. *Inventio 10*, S. 781. *Kleines harmonisches Labyrinth*, S. 591. *Wachet auf: ruft uns die Stimme*, S. 645.

Barber, Samuel: *Sonata for Piano*.

Bartok, Bela: *Sixth Quartet*.

Binchois, Gilles: *De plus en plus*.

Brahms, Johannes: *Acht Klavierstuecke*, op. 76 no. 1. *Balladen fuer Pianoforte*, op. 10 no. 3. *Waltzer fuer Pianoforte*, op. 39 nos. 5, 6, 11, 12, 15.

Chopin, Fryderyk: *Prelude*, op. 28 no. 9.

Gibbons, Orlando: *Fantasia*.

Handel, George Frederic: *Hallelujah* chorus, *Messiah*.

Haydn, Joseph: *Symphony 97*.

Hindemith, Paul: *Interludium* (Valse), *Ludus Tonalis*. *Zweite Sonate fuer Klavier*.

Janequin, Clement: *Guillot ung jour*.

Maffoni, Hieronimo: *Quam pulchri sunt gressus tui*.

Mozart, W. A.: *Quartet no. 23*, K. 590. *Quintet fuer Piano-forte, Oboe, Clarinette, Horn, und Fagott*, K. 452. *Sonate no. 15*, K. 545.

Obrecht, Jacob: *Tsat een meskin*.

Prokofieff, Serge: *Pensees*, op. 62. *Two pieces*, op. 3.

Rachmaninoff, Sergei: *Symphony no. 2*.

Saint-Saens, Camille: *Vogue, vogue la Galere*.

Schubert, Franz: *Die Stadt*. *Liebesbotschaft*.

de Sermisy, Claudin: *Au ioly boys*.

Stravinsky, Igor: *Octet for Wind Instruments*.

Walk, Hugo: *Er ist's*.

Analyses of these works indicate that structural proportions based on phi most frequently employed fractional values (5/8 and 8/13), although a few instances were noted of proportions based on the accurate reference value for phi, 0.618. Events frequently placed at significant structural locations include melodic repetitions--such as recapitulation--and disturbances to flow--such as meter changes or fermatas. Also high in structural importance were musical events affecting the dynamic properties of a work: loudness, note density, register, rate of activity and similar factors. The commonality of mathematically-based structural proportions to a wide range of musical periods suggests that, as much as any other single factor, structural coherence is essential in musical organization.

# ABSTRACT

# HE USE OF THE TUBA IN THE SYMPHONIC POEMS OF RICHARD STRAUSS

John L. Smith, Jr., D.M.A.
University of Missouri-Kansas City, 1979

The purpose of this dissertation is to define
role of the tuba in the symphonic poems of
ard Strauss. In order to place this analysis
in historical perspective, background informa-
concerning the tuba, Strauss, and the symphonic
s was provided. Berlioz's Treatise on Instru-
ation, as revised by Strauss, was examined to
ide a comparative analysis between the tuba
estration techniques as espoused in the text
the scoring techniques that were evident in
poems.

The tuba parts of the nine symphonic poems
examined in terms of individual and ensemble
acteristics. Individual characteristics were
yzed according to the following criteria: fre-
cy of use, pitch range, tessitura, dynamic
e, articulation, melodic characteristics, solo
rhythmic treatment, special effects, and idio-
c problems. An examination of ensemble charac-
stics provided information concerning the re-
onships between the tuba and the orchestra.
eria considered for this analysis concerned
rogeneous instrumentation, multiple tubas,
onic voicing, timbre effects, comparative
mics, balance and blend, and special techniques.
applicable, data comparisons were made between
the first four and last five symphonic poems,
the bass and tenor tuba parts, and (3) the tuba
trombone parts.

The conclusions found in this study attest to
superb orchestrational skills attributed to
uss. He explored and employed many new con-
in orchestrating the tuba. Such orchestra-
techniques presented the tuba as an important
equal constituent of the orchestral resources.

## ABSTRACT

# WILLIAM LEVI DAWSON (b. 1898) AND AN ANALYSIS OF HIS NEGRO FOLK SYMPHONY (1932; Rev. 1952)

Jacqueline Kay Thompson, M.M.
University of Missouri-Kansas City, 1979

William Levi Dawson was born in Anniston, Alabama, on September 26, 1898. At the age of thirteen, Dawson ran away from home to Tuskegee Institute in Alabama where he received his first formal musical training. After graduating from the Tuskegee Institute in 1921, Dawson taught at the Kansas Vocational College in Topeka, Kansas, and later became the director of music at Lincoln High School in Kansas City, Missouri.

While in Kansas City, Dawson studied theory at the Horner Institute of Fine Arts and composition with Sir Carl Busch. In 1925, Dawson received a Bachelor of Music degree (with honors).

Dawson left Kansas City for Chicago, where he studied composition on scholarship with Adolph Weidig at the American Conservatory and received a Masters degree in composition in 1927. He remained at the Conservatory doing post-graduate work with Dr. Thorvald Otterstrom. It was during this post-graduate study that Dawson began work on his Negro Folk Symphony, a symphony in the Negro folk idiom, based on authentic Negro folk music, but in the same symphonic form used by composers of the romantic-nationalistic school: Brahms, Dvorak, and Tchaikovsky.

Dawson completed his Negro Folk Symphony in 1932 and it was brought to the attention of Leopold Stokowski. Stokowski, conductor of the Philadelphia Orchestra, scheduled a world premiere performance of Dawson's symphony on November 16, 1934 at Philadelphia's Academy of Music.

Returning to the United States in 1952 from a visit to West Africa, Dawson turned to his symphony

and revised the scoring of the third movement, infusing it with rhythmic characteristics strongly inspired by his African visit. When it was finished, Dawson again contacted Stokowski, who had recently organized the American Symphony Orchestra. The recording of this revised version was released during the one hundredth anniversary of the Emancipation Proclamation (1963).

Dawson gained international acclaim as director of the famed Tuskegee Institute Choir. More significant perhaps, are his compositions and arrangements of music in the Negro spiritual genre as important sources for this segment of musical America.

Dawson's Negro Folk Symphony (1932; Rev. 1952) is a three-movement work utilizing Negro folk melodies as thematic material. Characteristic of the themes is a short-long (syncopated) rhythm and a tendency to introduce them with a solo wind instrument. Dawson also uses what he calls a "leading motive" in all three movements after it appears in the opening measures of the symphony.

A complete list of works and a discography follows the symphony analysis.

## ABSTRACT

## A STUDY OF ATTITUDES, COMPETENCIES, AND UNDERSTANDINGS ACHIEVED THROUGH THE MEDIUM OF ELECTRONIC MUSIC IN SELECTED UPPER ELEMENTARY AND JUNIOR HIGH SCHOOL CLASSROOMS

The University of North Dakota, 1972
Faculty Advisor: Professor Clyde M. Morris

Fredrick R. Willman, Ph.D.
University of Missouri-St. Louis
Music Education

### Problem

The purpose of this study was to test a basic upgraded program of study in electronic music suitable for use in grades five through eight.

## Procedure

The research population consisted of 339 students drawn from two elementary schools and one junior high school in the Grand Forks, North Dakota, Public Schools. These students were grouped into seven pairs of experimental and control groups. For one semester the experimental groups received music instruction using an electronic music-based curriculum while the control groups received more general, traditional music instruction. Measurements were made with a battery of four pre/posttests to determine any possible significant differences in attitude toward music, competencies in electronic music, and musical concept development that existed between the experimental and control groups.

The statistical techniques utilized for this study were analysis of covariance and analysis of variance by regression. Analysis of variance was included to identify any effects that could be attributed to the covariate. The .05 level of confidence was established a priori for determining the significance of the analyses.

## Findings

1. There were no significant differences between the control and experimental groups in attitude toward music.

2. In a majority of the groups tested, the experimental groups showed a significantly better mastery of competencies in electronic music than did the control groups.

3. Exposure to and involvement with electronic music contributed to a higher level of conceptual development for a majority of the experimental groups (for the portion of the musical concepts measured by the fourth test) than for the control groups.

4. Students' opinions of electronic music and ir reactions to its inclusion in music class much more positive in seventh and eighth grades n in fifth and sixth grades. There was a wide ge of likes and dislikes; most students were e to tell quite specifically why they either ed or disliked electronic music. However, the ments seem to indicate that most students had yet reached the point of being able to identify h the aesthetic aspects of electronic music.

## Recommendations

1. Some electronic music should be introduced each grade level with the main emphasis occurring the seventh and eighth grades. Becoming familiar n terms and techniques appears to be one of the atest obstacles for students. A gradual acqui- ion of necessary knowledge and skills could be n more easily developed if electronic music were rted in the lower grades.

2. The development of musical concepts (through osure to and involvement with electronic music) t are applicable to many kinds of music has not n conclusively established by this study. Further dy should be undertaken to identify these concepts. need for a reliable test instrument is crucial.

3. Electronic music's many sound capabilities d themselves to unlimited development of the tive capacity. Additional studies should be to uncover the potential of electronic music elation to research findings in other phases reativity.

4. Electronic music study should last for a od of time that will enable students to master mechanical aspects well enough for the aesthetic cts of the music to become the central focus of learning experience.

5. An electronic music-based class should be idered, on an elective basis, as an alternative ne traditional general music class in grades

seven and eight. An additional study could be made to determine the differences between the electronic music-based class and the traditional general music class when self-selection (choice between electronic or traditional class) is made available to students.

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I. A Philosophy for Group Piano Instruction Based Upon Learning Theory and Group Interaction Theory
David Montano, University of Denver .................... 7

II. The Development of American Public School Elementary String Classes and Orchestras to 1950...
Janet E. Hoisington, Washington University, St. Louis .................... 39

III. The Role of Ethnomusicology in Music Education
Lewis B. Hilton (Ret.) Washington University St. Louis .................... 63

IV. Selected Abstracts in Music Education

A. The Horn in the Music of Gustav Mahler
Edward J. Bostley, University of North Carolina, Chapel Hill ..... 74

B. Aspects of the Compositional Styles of Three Twentieth-Century American Composers of Choral Music: Alan Hovhaness, Ron Nelson, & D.Pinkham
Dennis K. Cox, University of Maine, Orono. 76

C. A Study of Stylistic Characteristics in Selected Major Choral Works of Normand Lockwood
Tony M. Davis, Texas University for Women, Denton ....... 78

D. The Choral Music of Randall Thompson, An American Eclectic
Byron W. McGilvray, San Francisco State University ....... 79

E. A Comparison of Two Approaches of Teaching Brass Instruments to Elementary School Children
John J. Milak, Washington University, St. Louis ........ 81

F. An Application of the Principles of Carl Rogers and Jerome Bruner to a Music Methods Course for Elementary Education Majors
Mary Ann Mulligan, Fontbonne College, St. Louis ........... 83

G. Italian Solo and Chamber Music for the Clarinet--1900-1973: An Annotated Bibliography
Orval B. Oleson, University of Missouri-Kansas City ...... 86

H. The Development of Comprehensive Musicianship in the Secondary Instrumental Music Program
Elvis O. Spearman, Washington University, St. Louis ........ 92

I. Poetic Imagery in the Songs of Benjamin Lees
Shirley A. Westwood, University of Missouri-Kansas City .................. 94

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Editor: Jack R. Stephenson
Conservatory of Music
University of Missouri-Kansas City
Kansas City, Missouri 64111
Telephone: 816 363-4300

Editorial Committee:
Tilford Brooks
Department of Music
Washington University
St. Louis, Missouri 63130
Telephone: 314 889-5585

Charles Emmons
Department of Music
University of Missouri-Columbia
Columbia, Missouri 65201
Telephone: 314 882-3438

June Jetter
Conservatory of Music
University of Missouri-Kansas City
Kansas City, Missouri 64111
Telephone: 816 363-4300, Ext. 206

F. Bion McCurry
Department of Music
Southwest Missouri State University
Springfield, Missouri 65802
Telephone: 417 883-3297

Douglas Turpin
Director of Music-Parkway Public School
465 Northwoods Mill Road
Chesterfield, Missouri 63017
Telephone: 314 851-8100

Editorial Committee (continued):

Fred Willman
Department of Music
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, Missouri 63121
Telephone: 314 553-5980

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## PREFACE

The Missouri Journal of Research in Music Education, published by the Missouri Music Educators Association, is devoted to the needs and interests of teachers of music in Missouri and the nation. This issue, Volume IV, Number 4, is the nineteenth.

The members of the Editorial Committee are grateful to those readers who have written suggestions concerning the content of past issues and request that criticisms and suggestions again be sent to the Editor concerning the content of this issue. We strive for a reasonable balance among music theory, history, philosophy, aesthetics, and pedagogy.

We express our deep gratitude to the Missouri Music Educators Association for their financial support to make it possible to continue to publish the Missouri Journal of Research in Music Education.

The Editorial Board

# A PHILOSOPHY FOR GROUP PIANO INSTRUCTION BASED UPON LEARNING THEORY AND GROUP INTERACTION THEORY

David Montano
University of Denver

E. Thayer Gaston has written that "The value of the adaptation of the individual to the group can hardly be overestimated in a society. Group music brings a feeling of belonging."[1] Gaston describes the life progress of an individual as the development of self toward participation in continually more significant groups or continually more significant participation in the same groups.[2] "Music by nature," he has concluded, "draws people together for the purpose of intimate, yet ordered, function."[3] Gaston's ideas are as pertinent to thought and investigation in the area of piano teaching as they are to general music teaching and musical ensemble teaching. It is the purpose of this article to detail a philosophical position, based upon learning theory and group interaction theory, concerning the advantages that the group setting can have in piano teaching, along with some discussion of practical considerations.

Four theoretical principles synthesized by this author from the literature in learning and education can form a major portion of the rationale for teaching piano students in groups and in particular for utilizing techniques of fostering productive interaction in the group instructional environment:

1. Intrinsic motivation is a powerful force in human learning.

2. Intrinsic motivation in particular to discover truths, concepts, and solutions to problems, is of great importance in the mental processes involved in the higher intellectual skills.

3. Besides knowledge in particular fields of human activity and understanding, the development of individuals' intellectual skills to their highest capacities is of great importance to the human condition.

4. Intrinsic motivation and discovery learning can be especially nurtured in productive processes of group interaction among students.

These theoretical principles can be found within, or deduced as expansions upon, some major learning theory formulations which have significant influence upon modern educational thought and research. In addition, research in group interaction psychology and productivity can be cited which supports many conclusions reached in the theories discussed here.

## First Theoretical Principle

The concept of intrinsic motivation, from theories of the internal in human psychology, is of particular importance to an educational philosophy that places great value upon group dynamics in learning settings. This consideration cannot be overestimated. Specifically, if one is to limit the influences upon one's teaching models to only those processes that can be explained in terms of directly observable stimuli and responses, then complete reliance on individual programmed instruction, focusing entirely on the individual's behavior from what is known about operant conditioning and reinforcement, would seem to be the logical culminating product of educational science. However, if one does not restrict oneself to those limits, theories of internal structure in human psychology lead logically to a philosophical position wherein a social component and thus group dynamics might be held, as they are in this article, to be of optimum value in the learning process.

There is no lack of writings which have questioned in detail the behaviorist position which restricts the building of psychological theory upon only directly observable phenomena. For instance, the linguist Noam Chomsky has written several reviews of works by the behaviorist B. F. Skinner in which he provides lengthy arguments to say that a reliance only on directly observable stimulus-response phenomena cannot explain verbal cognition.[4] Although his starting point is linguistics, he says his criticism is an articulation of a position generalized beyond that particular area. The general position is that the task of psychology is to understand the internal structure, states, and organization of the mind which produce stimulus-response relations, and that knowledge of the stimulus-response relations is not an end in itself but only one means towards infering such an understanding of the internal. Chomsky objects to any a priori rejection of theories of internal structure, saying that such rejection only places unwarranted hindrances on the development of the science towards the formation of postulates we cannot now, but may some day be able to, validate with research.[5]

The Field psychologist Kurt Lewin has expressed similar thoughts. He believed that constructs of psychology such as "goals," "hope," "power fields," and "values" can be identified as conceptual dimensions just as physical phenomena have been, and eventually be quantified for methodological value in research. "It would be a mistake," he writes, "to delay using [the approach of employing conceptual dimensions for the internal constructs] until psychology has reached a stage where each construct designates phenomena which can be measured quantitatively." Working toward quantitative equations "will be much facilitated if we become aware of the importance of these aspects and, at least, learn carefully to distinguish different conceptual types."[6]

Abraham Maslow, in raising similar objections to the behaviorist restrictions through his writings in Humanistic psychology, has argued that it has been a modern error to create what is "a technology and not a philosophy of ends."[7] He points out that the physical sciences are those of "non-personal, non-human things, which have no ends. The development of physics, astronomy, mechanics, and chemistry was in fact impossible until they had become value-free, value-neutral, so that pure descriptiveness was possible."[8] But, he says, human beings have "ends," and so the behaviorist model which was derived from the model of the physical sciences research, cannot be legitimately taken as capable of explaining the whole of human psychology.[9]

The present writer would expand upon these arguments to point up the fact that major advances in knowledge have constantly occurred in human history partly as gradual accumulations of evidence to support theories by men who in their own time had not yet means to validate their theories. A modern example of a theory undergoing such a process is Albert Einstein's Theory of Relativity. It is important, therefore, that psychologists and educators do formulate models of the internal in psychology, and philosophies of teaching that take the internal into account.

A survey of some theories about intrinsic motivation could begin with a reference to Robert Gagné's description of a motivation to continue learning tasks which he names an "enjoyment of learning":

> If the learner can regularly seek and find rewards for his achievement motivation, it is not unreasonable to suppose that his entire set of experiences will generalize into a positive enjoyment of learning itself. To develop such a "love of learning," the student must be progressively weaned from dependence on the teacher or other agent external to himself. First of all, this means that he needs to develop his own "standards" against which he can compare his achievements as they develop by stage during his learning of a topic or subject . . . .
>
> A second kind of motivational development, extending over a period of years, is an increased dependence on self-generated "instructions" and strageties in the prosecution of a learning assignment.[10]

Jean Piaget has produced a more detailed model of the internal in human psychology, and the concept of intrinsic motivation is central to it. Piaget defines the cognitive act itself as one of "assimilation" and "accommodation" of input to perceive the environment in a way meaningful for growth and development, that is, learning.[11] In the process of assimilation the person integrates new perceptual matter into existing "schemata" or behavior patterns[12], while in the process of accommodation the person creates new "schemata", or modifies existing ones to accommodate new matter.[13] Learning occurs as a result of intrinsic motivation because the child or person is motivated to achieve a balance or "equilibrium" between assimilation and accommodation.[14] In the process of assimilation and accommodation the child or person must act, Piaget maintains, for cognitive development to proceed. This is true of both sensori-motor learning and the less overt action of cognition.[15] There is motivation to act, whenever dis-equilibrium occurs, to seek a new equilibrium by assimilating or accommodating.[16] To Piaget, who began his career as a biologist, the learnings of people, or schemata, are the mental counterparts of biological means of adapting. Thus could motivation for intellectual growth and development be explained as intrinsic to the degree that motivation to physically adapt for survival is intrinsic.[17] Also, to Gagné's corollary of self-reliance Piaget very clearly adds a principle that a learner must act rather than merely be acted upon in order to learn. As will be made clear later, these phenomena are facilitated by group processes.

Another applicable set of constructs in the literature is John Dewey's aesthetic theory of experience. It is also a developmental model which describes intrinsic motivation in the activity of man's intellect in terms of an aesthetic quality of living, a rhythm of loss of integration with, and recovery of union with, environment.[18] Receptivity, Dewey contends, is not passive, but is a process of responsive acts that accumulate toward objective fulfillment. What motivates the human is an intrinsic motivation for "complete" experiences. In the complete experience, needs (including intellectual ones to learn) are followed by impulsion and awareness of intent. They are followed in turn by a formation of purpose, wherein attitudes of the self are informed with meaning, and a drive for the final product of elation in overcoming and utilizing resistance.[19] Dewey is convinced that the internal conditions of psychology, of which the foregoing is a model, "interact" in equal measure with the objective in experience.[20] In other words, having to do with education particularly, "A primary responsibility of educators is that they not only be aware of the general principle of the shaping of actual experience by environing conditions, but that they also recognize in the concrete what surroundings are conducive to having experiences that lead to growth."[21] Finally, so complete is Dewey's conviction about the natural order of intrinsic motivation, that he concludes that the freedom of most enduring importance in education as well as in life generally is the "freedom of intelligence, that is to say, freedom of observation and of judgment exercised in behalf of purposes that are intrinsically worthwhile" to the individual.[22]

Gestalt psychologists working primarily in Europe have evolved some theoretical constructs related to the internal in learning. The Law of Prägnanz is a law of equilibrium in perception. It says that psychological organization of perceptual matter tends to form gestalts or holistic groupings according to properties of regularity, simplicity, stability over time, and the like.[23] Because of the holistic tendencies of perception and thought implicit in this, and much research constituted by observations of problem-solving behavior, there has been theorized a Law of Closure. This states that a problem situation creates tension towards solution through insightful thinking dependent upon discovery of the problem's essential nature. The human, in this view, constantly seeks equilibrium in the face of experience by forming new gestalts or holistic states of awareness, in a synthetic process of discovered insight.[24]

Humanistic psychologists, including such writers as Abraham Maslow, Rollo May, and Carl Rogers, have concluded that humans react to the phenomenal world in an integrated, purposeful manner, the intrinsic motivation being to grow in an internal dimension which has been called "self-actualization." This is the inner, directing need to develop oneself in the direction of healthy, competent, and creative functioning.[25] The reason, in the explanation of this model, is that the concept of self is intertwined with reality, that there is no such thing as truth to the person except as he participates in it, is conscious of it, has some relationship to it.[26] There follows from this (also explaining further the opposition to the idea that operant conditioning theory can be relied upon to describe the whole of human behavior) the principle that man becomes human only at the moment of decision.[27] Indeed, the undermining of will and decision is part of the neurosis of modern man, it is contended by the Humanists.[28] Ultimately, consciousness as defined by this psychology is man's capability to transcend the concrete situation, to live in terms of the possible. Thus, the constant intrinsic motivation is for a new "function," similar to the "gestalt" in principle, whereby the whole pattern of the person's awareness in the world changes with new experience.[29]

There should be included in this discussion a mention of related efforts by Field psychologists, led by Kurt Lewin. Lewin's views on the validity of including internal forces as conceptual dimensions in research in learning have been summarized above. Among the constructs he describes are certain forces or "directed entities" which cause learning. As Lewin constructs the causal field, there are forces of "two types: one resulting from the structure of the cognitive field itself, and the other from certain values (needs or motivations)."[30] The latter play "an important role in the solution of any intellectual task. In fact, a psychological force corresponding to a need can be said to have two basic results. It leads to locomotion of the individual in the direction of the psychological force or to a change of his cognitive structure in a way which corresponds to such locomotion or which facilitates it. Therefore, all intellectual processes are deeply affected by the goals of the individual."[31] Lewin's explanation of motivation would seem to have much in common with that of Piaget in the sense that in both theories learning is a change in cognitive structure for adapting needs which are parallel to biological needs in the human. The difference is in the value Lewin specifically places on the development of quantification, which is part of Field psychology's impact. What is important is the contention again that intrinsic motivation must be dealt with as a powerful force in learning regardless of whether our capability for such quantification is imminent.

## Second Theoretical Principle

The second theoretical principle involved in the philosophy here outlined shall now be discussed, that is, that intrinsic motivation particularly to discover truths, concepts, and solutions to problems, is of great importance in the mental processes of the higher intellectual skills. Since this is actually a corollary principle to the first, more general one, it has to a great degree been dealt with in the previous discussion. However, such psychologists as Jerome Bruner and Robert Gagné have particularly discussed discovery itself in some detail.

Gagné has formulated a theory of eight categories of learning, or intellectual skills, which culminate hierarchically in concept, principle, and problem-solving learning.[32] He writes that to maximize the potential of the intrinsic motivation he calls "enjoyment of learning," the student needs to develop the self-generation of ideas and strategies for problem solving, as has been noted above. Thus, he says, in the higher learning processes of problem solving, the teaching model of "guided discovery" has been found to be extremely effective in terms of both success and retention.[33] In the process of this model, 1) goals are defined, 2) questions are asked by the teacher to stimulate students' recall of certain pertinent knowledge, and 3) there is further questioning and discussion to stimulate thinking to generate student hypotheses and sudden insights into solutions.[34] When knowledge is used for thinking of this sort, he adds, transfer of knowledge and building of independent learning are fostered.[35]

Though Gagné makes these points specifically with reference to problem solving, the highest of his learning categories, certain aspects of the theories of Jerome Bruner suggest that guided discovery is effective and very much called for in concept development also. Concept development, in Bruner's model, is the formation of systems of generic codes. Bruner argues that concepts are not isolated phenomena in perception and memory, but hinged with one another in complex hypotheses about new perceptual matter. Therefore, the constant building of these codes is normally discovery-oriented.[36] Since the generic codes formed facilitate transfer, retention of knowledge, self-reliance, and intrinsic reinforcement, so discovery learning facilitates the same.[37] In this Bruner has been supported for example in a study by E. R. Guthrie showing that discovery learning facilitates transfer.[38] and by the Gagné and Bassler study cited by Gagné.[39]

## Third Theoretical Principle

All of the discussion up to this point leads logically to the third basic theoretical principle of this philosophy. If intrinsic motivation, discovery processes, and the higher intellectual skills are all intertwined in the manner indicated, it follows that development of individuals' intellectual skills to their highest capacities is of great importance to the human condition. Therefore, teaching needs to be designed to achieve far more than simply efficiency in learners' acquisition of skills and facts from simple to complex. Every person who has advanced beyond the sensory-motor stage in Piaget's developmental stages[40] can discover and verbalize some truths to form concepts even if they be so elementary as to require *building* upon by the teacher in a more direct influence to advance learning sufficiently in a particular situation. No matter how elementary those concepts may be, the intrinsic motivation toward, and reward of, self-discovery is theorized by many scholars to be very powerful and of essence in human life. Also, every person who has advanced beyond the pre-operational stage of Piaget can apply logical thought to solve some problems. Again, no matter how elementary those problems and solutions may be, the intrinsic motivation and reward involved is theorized by many scholars to be very powerful and of essence in human life. Teaching for self-reliant discovery is difficult and can be easily misunderstood and misused, because all learning situations must be placed in contexts of knowledge that the learners are known to possess and can recall in systematic ways, and in contexts of intrinsic worth their meanings would have to learners; but skillful teaching can maximize great advantages that have been here discussed.

## Fourth Theoretical Principle

The theoretical principle that intrinsic motivation and discovery learning can be especially nurtured in productive processes of group interaction is no less integral than the others in many of the already cites writings on learning. The essential relationship is clear: group settings and group dynamics of peer interaction in particular facilitate guided discovery and problem solving, which are fueled by intrinsic motivation and in turn reinforce it for future learning.

Gagné concludes his discussion of guided discovery in problem solving by citing experimental evidence that group problem solving is more effective than an individual solving the same problem. Studies Gagné cites by Taylor, Berry, and Block suggest that "the individual student may not have the greatest number of ideas nor even the best ones."[41] A study he cites by Lorge suggests that the advantage to a group setting is that ideas must be well communicated and are subject to sharpening as more ideas are brought forth by others in the group, and each individual benefits, where results show group problem solving is more effective than an individual solving the same problem.[42] A class whose atmosphere includes discussion of the guided discovery type described above can provide the same kinds of opportunities and exhibit the same kinds of performance trends.[43]

Piaget carries his theory of equilibrium in assimilation and accommodation to the realm of human peer interaction in learning. Part of the process is the assimilation of the viewpoints and knowledge of other people, and accommodation to them.[44] The principle Piaget holds that the learner must act upon the environment for learning indicates the need for both environmental and personal interactions in the world.[45] All of this suggests that the group learning setting reflects, as opposed to purely individualized instruction, the more natural state of affairs. It also suggests that teachers have an intriguing challenge to develop techniques of fostering the interactions that are naturally productive in learning.

It must be noted that the Freedom of Intelligence in John Dewey's theories discussed earlier is a hallmark of Democracy, whose principles Dewey is well known to have considered as important to education as to society generally.[46] Democracy is essentially a process of ordered change: a quest for information and production of new ideas. So should education arouse these in the learner.[47] This all means, Dewey says, that education is "essentially a social process."[48] In that process "quality is realized in the degree in which individuals form a community group," and the teacher is defined as the "most mature member of the group." directing processes of exchange in which all have an equal share, that is in "interactions and intercommunications."[49]

One of the fundamental conclusions of Humanistic psychologists as related to their views discussed earlier is quite pertinent here. The Humanists say that peer interaction is essential for feedback in growth, self-actualization, and thus in making decisions about reality, which is what learning is.

Group dynamics are the producers of this kind of feedback.[50]

Kurt Lewin reports a study by Radke and Klisurich that shows a strong superiority of group decision over a method of direct lecture in the effecting of social change that accompanies the acquisition of new knowledge.[51] Decision, Lewin says, is a link between motivation and action, a link that lectures and even discussions in themselves cannot provide. Decisions that result from discussion in group interaction are seen to be stronger, in studies, than individually made decisions.[52] Attitudes and values have much to do with decisiveness and work in learning, in the light of all that has been said so far in this paper, because of their relationship to motivation and reward in internal processes. Lewin, bringing Field theory into play, concludes that:

> If one uses individual procedures, the force field which corresponds to the dependence of the individual on a valued standard acts as a resistance to change. If, however, one succeeds in changing group standards, this same force field will tend to facilitate changing the individual and will tend to stabilize the individual conduct on the new group level.[53]

Essentially, "a planned social change may be thought of as composed of unfreezing, change of level, and freezing on the new level. In all three respects group decision has the general advantage of the group procedure."[54]

There has been a great deal of experimental research in group dynamics, especially since the 1940's, in the United States. Much evidence in that research has accumulated to support the theoretical positions discussed in this paper as a basis for a teaching philosophy. Some studies have already been referred to, and other pertinent evidence shall now be mentioned.

William C. Morse reports a study by Horwitz that indicates motivation "is interfused with the individual-group relationships." Identification with the group is a major controlling factor, and "thus, the diagnosis and guidance of the individual-group relationship becomes a vital concern for the teacher."[55]

As has been said earlier, group settings have been shown to promote intuitive leaps, the formation of hypotheses in learning. This is supported by Michael Olmsted and A. Paul Hare.[56] It is probably due to the field of influences on motivation and to the richness of input available in the group, as Gagné has said in material referred to above.

Feedback processes in groups seem to act to counter perceptual distortions, also. Rodney Napier and Matti Gershenfeld report a study by Leavitt and Mueller showing "a concerted effort on the part of the participants to communicate in a manner that insures the least possible distortion between a person's intent and the message actually received by others."[57] The value of an implied boost to clarity of thought in learners, through this aspect of the group, can hardly be overestimated.

There are studies showing positive transfer of group skills to other group situations. Napier and Gershenfeld cite studies by Hall and Williams, Stuls, and Tolela.[58]

A superiority of democratic cooperation to individual competitiveness for productivity has been shown. Howard L. Nixon cites a study by Deutsch, for example.[59] Thus, Dewey's ideas in particular, and generally the entire notion of skillfully fostered processes of group interaction as an advantage, are supported.

Group settings influence decisiveness in goal seeking, as Lewin has said in material referred to above. In fact, "the centrality of goals as a group concept is such that some theorists define a group as a goal-seeking system. Group goals influence all aspects of group behavior."[60]

## Group Significance to Piano Instruction

In seeking to effect the advantages of the group in instruction, the piano teacher can, if he meets the challenge with skill, increase learning productivity in students for all the reasons implicit in these four theoretical principles. Even though chaining and shaping techniques for teaching are very necessary at times in performance instruction, there is no reason that they must establish an individual instruction setting as a sine qua non of applied music teaching. In fact, since music as a performing art is by its very nature allied with the group phenomenon in human experience, it would seem that applied music learning is one that would be *especially* nurtured by group settings. This does not, it should be added, mean that students share only final or highly worked products of their efforts; the implications go far beyond that. It means students interacting in the learning and sharing of each bit of knowledge and skill that enters into the development of understanding and technique that comprise the building materials of final performances. Interpretive and higher order technical decisions in applied music learning are themselves no less the results of problem-solving skills than anything else covered by Gagné's eighth category of learning. Billie Erlings writes that:

> Group dynamics and interaction generate a wider variety of ideas and responses; with those available, it is easier to employ teaching strategies which guide, mould, and shape students' learning, as opposed to those based rather exclusively on direct information-feeding . . . . In creative playing activities, as well as resourceful decision-making, on a one-to-one basis we are often forced into a position of "telling the answers" for lack of additional input from a student. Both improvisation and playing by ear are frequently relinquished in private lessons, often because of the difficulties cited above: the old "well runs dry" and there is no other source for generating ideas or inspiration . . . . Listening to other students perform provides an ideal vehicle for developing ability to make evaluations based on objective criteria . . . . Peer

> evaluation, based on objective criteria, is often much more influential with students than the same criticisms offered by the teacher. Peer influence itself has long been cited as a major contributor to motivation and acceptance of personal responsibility. If the atmosphere of mutual trust and respect is maintained, students enjoy learning with and from each other, and group dynamics serves its best function.[61]

## Aspects of Group Dynamics Which Can Stimulate Learning

Aspects of group interaction, then, are sought which can maximize problem solving and discovery for intrinsic reward in learning. The first aspect that might be considered is the posture of the teacher.

A balance in teacher influence between direct and the indirect, is necessary to stimulate problem-solving and guided discovery for intrinsic reward in learning. The first aspect that might be considered is the posture of the teacher.

A balance in teacher influence between the direct and the indirect is necessary to stimulate problem-solving and guided discovery by the students. Ned Flanders outlines these influences as follows: In indirect influence a teacher "1. Accepts feeling [of students] . . . 2. Praises or encourages . . . 3. Accepts or uses ideas of pupils . . . 4. Asks questions . . ."[62] In direct influence a teacher initiates by

"5. Lecturing . . . 6. Giving directions . . . 7. Criticizing or justifying authority . . ."[63] The indirect is important in nurturing student self-confidence and independent thinking, and involves such influences as accepting student feelings; encouraging and praising; clarifying, developing, and building upon student ideas; and asking questions to stimulate thought and pertinent recall. The direct, which is important at many points during lessons for structuring the course of the lessons, summarizing, and providing information, involves such influences as giving directions, expository lecturing, and being critical or commanding in various degrees.[64] There should be cyclic flow between influences of direct and indirect influences of the teacher, giving the problem solving of the group its direction, momentum, and sense of purpose.

There should be a balance in student talk between response and initiation. Continuing his outline, Flanders describes these as "8. Pupil-talk--response. Talk by pupils in response to teacher. Teacher initiates the contact or solicits pupil statement or structures the situation. Freedom to express own ideas is limited." and "9. Pupil-talk--initiation. Talk by pupils which they initiate. Expressing own ideas; initiating a new topic; freedom to develop opinions and a line of thought, like asking thoughtful questions; going beyond the existing structure."[65] The greater the social and intellectual development of the students, the more they can initiate spontaneous input of their own. This can be true for each student, whether or not he is required by rules to signal a request to be permitted to speak. Such rules need not be made, depending upon the level of social maturation of the students. At the highest level of this development, as complete a spontaneity as is accommodated by a context of democratic cooperation is achieved.

There should be a balance between individuation and de-individuation of the students. Guy Duckworth says that

> A student interacting only with himself often lacks reality. His interaction quickly can take on purpose and become deepened when there is a more broad and diverse means of expression in the class, for other people, with and against whom his thinking can be tested for its validity. Further studies . . . indicate the vast human structure for learning is one in which individuation satisfying psychological needs of success, status, acceptance, self-esteem, independence, is balanced with de-individuation, which lessens inner restraints or fear of failure. De-individuation is the difficult structure to accomplish without a real group.[66]

The teacher's question framing in indirect influence should be appropriate to particular situations to maximize every potential for student problem solving and discovery. Several basic types of question framing are: 1) overhead questions directed to the group, used "to open discussion, to introduce a new phase or to give everyone a chance to comment;" 2) direct questions addressed to a specific person, used "to call on a person for special information or to involve someone who has not been active;" 3) relay questions referred back to another person or to the group, used "to help the leader avoid giving his own opinion, to get others involved in the discussion, or to call on someone who knows the answer;" and 4) reverse questions referred back to person who asks a question, used "to help [the] leader avoid giving [his] own opinion or to encourage [the] questioner to think for himself."[67]

Finally all techniques together should be thoughtfully integrated so as to facilitate a growth by the group in five particular dimensions, and thus growth by the individual in the group in what he derives from peer interaction. The culmination, in terms of learning, is the fifth dimension, for which growth in the other four seems essential, that of productivity. Constructs from the theories of Warren G. Bennis have been combined to form this five-dimensional summary of group growth. The group should grow in the dimensions of 1) Membership: the meaning, in terms of expectations of self and of others, of being a member of the group; 2) Influence: the development in clarity, perception, and smooth change of different leadership (leadership can take many forms), functions of the members concurrent with development of requisite democratic cooperation; 3) Feelings: growth in expression by each member of feelings and feedback messages with minimization of fear or reasons for fear; 4) Individual Differences: growth in recognizing, valuing, and building learning upon individual experiences, knowledge, and skills of all the group members; and 5) Productivity: learning itself, where problem solving and discovery are facilitated by all the group dynamics that have developed because of the richness of responses and ideas available that one person may not have.[68]

## Conclusion

The proliferation of philosophical inquiry and research efforts this century regarding internal cognition and its relationships with group learning factors is important for the consideration of scholars in the advancement of musical performance pedagogy. The complex interaction of motor learning and cognitive learning in piano playing, if subjected to rigorous definition of every learning element in terms of precise conditions and processes, does not in any way preclude such consideration. To the contrary, piano pedagogy deserves as well as any educational field the benefits of what is found in guided human interaction behaviors to enhance learning. There are plentiful bases in the scholarly literature in education and psychology for a philosophy and continued investigation. Research experiments regarding specific questions about group learning of piano playing have been done and efforts should continue.

## Footnotes

1. E. Thayer Gaston. Music in Therapy. New York: The Macmillan Co., 1968, p. 24.
2. Ibid., p. 25.
3. Ibid., p. 27.

4. For a summary of Chomsky's arguments, see Ernest R. Hilgard and Gordon H. Bower, Theories of Learning. Englewood Cliffs, New Jersey: Prentice-Hall, pp. 245-248.

5. Ernest R. Hilgard and Gordon H. Bower. Theories of Learning. Englewood Cliffs, New Jersey: Prentice-Hall, 1974, p. 246.

6. Kurt Lewin, Field Theory in Social Science. New York: Harper and Brothers Publishers, 1951, pp. 37-38.

7. Abraham Maslow. The Farther Reaches of Human Nature. New York: Penguin Books, 1971, p. 164.

8. Ibid., p. 164.

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10. Robert Gagné, The Conditions of Learning. New York: Holt, Rinehart and Winston, 1965, pp. 213-214.

11. Barry J. Wadsworth. Piaget's Theory of Cognitive Development: An Introduction for Students of Psychology and Education. New York: David McKay Co., 1971, p. 9.

12. Ibid., p. 14.

13. Ibid., p. 16.

14. Ibid., p. 18.

15. Ibid., pp. 22-23.

16. Ibid., p. 18.

17. Ibid., p. 118.

18. John Dewey, Art as Experience. New York: Minton, Balch, and Co., 1934, pp. 14-15.

19. Ibid., pp. 58-60.

20. John Dewey, Experience and Education. New York: Collier Books, 1938, 1963, p. 42.

21. Ibid., p. 40.

22. Ibid., p. 61.

23. Hilgard and Bower, p. 256.

24. Ibid. pp. 253-256, 274-276.

25. Guy R. Lefrancois, Psychology for Teaching. Belmont, California: Wadsworth Publishing Co., 1979, pp. 178-179.

26. Rollo May, ed. Existential Psychology. New York: Random House, 1961, p. 17.

27. Ibid., p. 42.

28. Ibid., p. 40.

29. Ibid., pp. 79-80.

30. Lewin, p. 83.

31. Ibid., pp. 83-84.

32. For a complete description of these eight categories, see Gagné, pp. 31-61, with a summary on p. 58.

33. Gagné, pp. 164-165.

34. Ibid. pp. 223-224.

35. Ibid., p. 256.

36. Lefrancois, pp. 121-123.

37. Ibid., pp. 131-132.

38. Ibid., p. 141.

39. Gagné, p. 165

40. For a detailed description of the stages in Piaget's theory of cognitive development, see Wadsworth, pp. 33-107, summarized on pp. 26-27.

41. Gagné, p. 257.

42. Ibid., p. 257.

43. Ibid., p. 257.

44. Wadsworth, pp. 30-31, 122-123, and 127-128.

45. Ibid., p. 126.

46. For an entire book on this subject, see John Dewey, *Democracy and Education: An Introduction to the Philosophy of Education*. New York: The Macmillan Co., 1926.

47. Dewey, *Experience and Education*, p. 79.

48. Ibid., p. 58.

49. Ibid., p. 58.

50. Lefrancois, p. 182.

51. Lewin, pp. 229-231.

52. Ibid., p. 233.

53. Ibid., p. 231.

54. Ibid., p. 231.

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56. Michael S. Olmsted and A. Paul Hare. *The Small Group*. New York: Random House, 1978, p. 77.

57. Rodney W. Napier and Matti K. Gershenfeld. *Groups: Theory and Experience*. Boston: Houghton Mifflin Co., 1973, p. 20.

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60. Napier and Gershenfeld, p. 122.

61. Billie Erlings, "Goals and Rewards: Developing Aesthetic Sensitivity and Independent Learning," The Piano Quarterly 26 (Spring 1978):10-11.

62. Ned A. Flanders. Analyzing Teaching Behavior. Reading, Massachusetts: Addison-Wesley Publishing Co., 1970, p. 34.

63. Ibid., p. 34.

64. The chart in Flanders, p. 34, details these categories further.

65. Flanders, p. 34.

66. Guy Duckworth, "Group Piano Instruction for Piano Majors," in Teaching Piano in Classroom and Studio, ed. Helene Robinson and Richard L. Jarvis. Washington, D.C.: Music Educators National Conference, 1967, p. 140.

67. Group Piano Pedagogy Workshop, Question Framing Guide. Kansas City: University of Missouri, 1980.

68. Descriptions by Warren G. Bennis, as summarized in Guy Duckworth. Materials for Graduate Study, Group and Class Piano Pedagogy. Boulder: University of Colorado, 1971.

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# THE DEVELOPMENT OF AMERICAN PUBLIC SCHOOL ELEMENTARY STRING CLASSES AND ORCHESTRAS TO 1950

Janet E. Hoisington
Washington University, St. Louis

Instrumental music string classes are found today in almost every public school in America, from elementary to high school. Although, instrumental music was not accepted widely in education until the beginning of the twentieth century, the development of class instruction, specifically of string instruments, can be traced from nineteenth century influences in America to the widespread introduction of class teaching in Boston through the Mainstone influence, and the various implementations throughout the United States in the following decades. This paper does not attempt to deal with the numerous developments since 1950; instead it centers primarily on the earlier years of development in the first half of this century.

The relatively late development historically of public school instrumental music was due to several factors. As late as the nineteenth century prejudices still existed against secular music as opposed to sacred because of the association of instrumental music with dance music and profane activities. Also influential was the emphasis on vocal training for the music supervisor. The precedent had been set for the vocal music in this country by the singing schools of Europe, and the need to learn to sing church hymns. There was no nineteenth century instrumental precedent to follow. The entrance of school instrumental music, according to Edward Bailey Birge, was "due to conditions inherent in the growth of democracy in education, which developed an elective system giving the pupil a free choice of a wide range of studies."[1]

According to Robert House, the prime factor in the establishment of instrumental music was "the relative success of vocal music in the schools . . . . The philosophy of pragmatism as expressed in progressive education helped create the impetus for instrumental music teaching in the schools. That is based upon the theory that knowledge is discovered by application. The development of skills on instruments was in keeping with the progressive spirit."[2]

The beginnings of instrumental class teaching is widely attributed to the Maidstone influence from England. Charles Sollinger has presented evidence that suggests that instrumental class teaching in America in the nineteenth century was fairly widespread, and possibly just as influential as Maidstone. In 1800 in Boston, class instruction in applied music was used by three instrumental teachers, and in 1839, the same idea was used in Knoxville.[3]

From 1847 until the twentieth century, a family of men organized many free violin schools in New York, Brooklyn, Philadelphia, Camden, and Pittsburgh. This family, the Benjamins, taught string players by class methods decades before the awakening of the public schools in the twentieth century to the possibilities of class methods in instrumental music. *The conditions for these* nineteenth century pioneers and public school instrumental teaching were essentially the same: lessons were offered free to those students with an instrument and a lesson book. Known string class teachers, from 1800-1911, are mentioned by name (24) and location (13) in Sollinger.[4]

Class lessons were also given in numerous nineteenth century conservatories. Those teachers graduating from these conservatories had experienced class teaching techniques, and drew from this experience in their own teaching. However, as the conservatory system fell into disfavor at the beginning of the twentieth century, those teachers graduating from the new music schools had not experienced class teaching methods.

About the year 1900 high school orchestras began to develop, especially in the Midwest. These early orchestras were not part of the public school program, and rehearsals were held after school hours. With the orchestra membership of pupils from private teachers, instrumentation was usually limited and unbalanced. A few violins, flutes, clarinets, cornets, drums, and piano were generally all that were available; cellos, basses, violas, French horns, oboes, bassoons, and kettle drums were scarce. Early in the century, these small orchestras were fairly numerous and performed at school assemblies, exercises, and public concerts. Teaching instrumental technique was not a purpose of the supervisors who organized these orchestras. They chose boys and girls who could already play well, and were willing to devote their own time in rehearsing. It was at least fifteen years before the orchestra won a place in the school curriculum. Early orchestra leaders mentioned by Birge include B. W. Merrill in Aurora, Illinois, in 1878, Jessie Clark in Wichita, Kansas, in 1896, Will Earhart in Richmond, Indiana, in 1898, and Charles E. Emmerich in Indianapolis, Indiana, in 1898.[5]

As early as 1905, some supervisors were already looking into the matter of filling an inadequate instrumentation. With proceeds from concerts, appropriations from school boards, and donations from citizens, basses and cellos were bought, secondly violas and horns, and finally oboes, bassoons, and timpani. To secure players for these instruments, former violinists were persuaded to switch to a lower stringed instrument, and likewise in the other instrument families. Pioneers mentioned by Birge in creating these orchestras were: Osbourne McConathy at Chelsea, Massachusetts, Hamlin E. Cogswell at Edinburg, Pennsylvania, James D. Price at Hartford, Connecticut, Anton H. Embs at New Albany, Indiana, Ralph Sloane at Sullivan, Indiana, and Glenn H. Woods at Oakland, California.[6]

One of the major problems of these early orchestras was the constant shifting of personnel due to commencement. To secure a more permanent personnel, feeder orchestras were developed. By starting grade school orchestras, a continuous orchestral experience of six years or more became possible. Two of the earliest grade school orchestras organized were in New London, Connecticut, in 1896, and in

Hartford, Connecticut, in 1899.[7] According to Birge, instrumental class instruction and grade school orchestras developed at about the same time. Both grew out of the previous orchestra movement.[8]

Though first conceived of as feeders for the high school orchestra, grade school orchestras soon developed as an independent activity. In 1909, Los Angeles had 30, in 1915 Kansas City boasted of 40, and Oakland, California, had 29 that same year. Oakland purchased $10,000 of instruments in 1913, with Glenn Woods supervising an instrumental teaching staff for class instruction and band and orchestra ensembles in every school. Other large cities followed close by: Grand Rapids, Pittsburgh, Cleveland, and Detroit made similar provisions. In 1918, George Eastman made a $15,000 donation for band and orchestra instruments in Rochester.[9]

Class teaching efforts, isolated in various schools throughout the country, received a boost from the influence of the Maidstone movement in England. Albert Mitchell, supervisor of music in Boston, started class teaching in 1911 after studying the English violin classes. The Maidstone movement originated about 1898. From its inception until 1914, when the first World War brought an end to the movement, nearly a half million violins were sold in England by the Murdoch Company. This company offered instruments, music, and teachers for a small affordable weekly amount, with classes held under the supervision of the schools. Charles Farnsworth is credited for publicizing this movement in the United States at a meeting of the Music Teachers Nation Association in 1908:

> I heard a concert given by the school orchestras in and about London in Alexandria Palace, where fourteen hundred and fifty youthful instrumentalists took part. It is astonishing to see what can be done under these conditions. The idea of teaching the violin in classes strikes one at first as almost impossible, but here is a movement where just this thing is done, not in school time, but outside, yet under the direction of school authorities.[10]

Consequently, Albert Mitchell was given a year's leave of absence, and on his return he organized after-school violin classes. These classes were admitted to the regular school day just three years later, in 1914. The Mitchell Class Method was published in 1912.

During the next decade class instruction spread to all sections of the country. "With the development of class instruction the emphasis shifted from the stimulation of individual performance to emphasis upon the ensemble. The class came to be regarded in many communities as a section of the orchestra--string, woodwind, brass, or percussion--and drilled accordingly."[11]

The relative importance of each of the influences leading to the rapid adoption of public school string classes after 1911 cannot be accurately measured. The Maidstone movement is often cited as the main force behind

America's instrumental class teaching; perhaps a more accurate statement would reflect that it was responsible for the rapid popularization of strings that occurred. The seeds for class teaching had been sown in the conservatory education of many of the early twentieth century teachers. Class teaching techniques had been in use as early as 1800 in the free violin schools of the Benjamins and others. The development of the high school orchestra demonstrated a need for more instrumental players and led to scattered elementary orchestra programs. The same World War which led to a halt of the violin classes in England accelerated class progress in the United States. The unifying power of music welded this country together. Many instructors were trained during the war to lead training camp ensembles, and brought a practical teaching experience to postwar music positions.

A close examination of one city's development gives an example of the quick inception of the grade school orchestra program. In Los Angeles in 1910 an orchestra department of elementary schools was organized. Sources stated that "to the best of our knowledge Los Angeles was the first city in the country to have an Orchestra Department in the Elementary Schools."[12] Los Angeles had boasted of sixteen elementary orchestras in 1906-1907, formed because they "stimulated home study, secured better marching, and . . . [gave] pleasure and benefit throughout the school."[13] Elementary students in those days marched to classes, and the live march music played after 1906 in these schools aided this. Among marches played were: "Rule Brittanica," "Men of Harlech," "Soldiers' March" from Faust, and "March" from Aida.[14]

The guiding hand in Los Angeles for many years was Jennie Jones, formerly a kindergarten teacher. In 1903 she assembled an orchestra before and after school in Grant Avenue Elementary School. Students furnished their own instruments and within a year or two eighteen to twenty students were in this orchestra playing marches for the student body.[15] In 1909 there were thirty such orchestras.[16] By 1910-1911 there were enough elementary orchestras for Miss Jones to assume a half-time post to organize and direct these orchestras. By 1913-1914 she assumed the position of full-time Elementary Orchestra Supervisor, with two full-time assistants. Together they managed seventy-seven orchestras and more than one thousand students.[17] Further progress was reached in the early 1920's when rehearsal was held during the school day, with more than three thousand students participating. By 1931 there were 227 orchestras with around four thousand instrumentalists.[18]

Because Miss Jones was opposed to the teaching of instruments in school classes, class instruction was not offered until the late date of 1944 after her retirement. Instead, students took private lessons. Instruments were loaned for five months for the sum of two dollars in the 1930's. After five months ninety percent of these students obtained their own instruments.[19] The school instruments were bought from funds obtained from entertainments given for this purpose. From an inventory of 175 instruments in 1928, the amount of school-owned instruments rose to 387 in 1931 and to 650 in 1943.[20]

Miss Jones outlined her objectives for the elementary orchestra as: "To serve in the social and cultural life of school, home, and community, To make music educational, To learn to understand and appreciate music, To teach independence of thought and concentration."[21]

The philosophy of the program was outlined in 1942 at the time of Miss Jones' retirement.

> Los Angeles is the first city to establish elementary orchestras, and throughout the years we have held up its standards by having no class instruction in the schools. We have depended upon the outside private teacher for the technique of the individual instruments, and have taught ensemble playing only during the orchestra period. We believe each instrument should be in the hands of a specialist and taught privately. There is too much waste in mass production.[22]

However, a reversal of this philosophy is evident by experimentations in class lessons in 1944. By 1947, class instruction was offered in the schools in violin, cello, and bass.

An outline of orchestra rehearsal for the period 1925-1945 is possible for the Los Angeles schools. The school orchestra met seventy-five to ninety minutes weekly, instructed by a classroom teacher, if available, or possibly by a special orchestra teacher who traveled from school to school. An orchestra teacher worked under an orchestra supervisor in charge of as many as seventy-five schools. The supervisor visited each school once every three weeks, presenting new music and techniques, while some school teacher continued the instruction between visits.

> The teacher after completing the routine mechanics of seating, tuning, etc., would start the actual rehearsal with a warming up number quite simple and fairly well learned. Through this she will attain some unity of thought and mental alertness in the group. From here on we proceed to a number needing drill and explanation. Thus far the supervisor has been in the background, but during drill she will pass from stand to stand pointing notes, helping with rhythms, and being generally useful. From this point on the supervisor and teacher will exchange places whenever the emergency arises. At the conclusion of this short, snappy drill period, the supervisor usually takes over for the presentation of new work. The supervisor passes parts, and makes necessary substitutions for the sake of balance and presents the new number.[23]

During the Twenties and Thirties instrumental music spread to the schools of the entire nation. Most schools can trace their first orchestra to this period. The first strength was in the Midwest, then in larger schools in all sections, and finally in smaller schools. School boards began appropriating money for instruments, as in Oakland's $10,000 addition in 1913. In 1915 Oakland reported twenty-nine grammar school orchestras.[24] In most cities (Los Angeles excepted) it was found necessary to provide instrumental instruction to supplement these new ensemble groups.

411

Various methods of starting string classes were implemented in the early years of formation. Where funds were available, a special full-time teacher was employed, teaching during school hours and for an hour before and after school, from 8:00 to 4:15. In smaller cities, a half-time position was made available. Where funds were lacking, arrangements were made with local private violin teachers. Each child would pay a nominal fee of ten to twenty-five cents per lesson. Classes of ten to twenty-five pupils were then needed in order to pay a reasonable amount to the teacher. Some cities augmented the teacher's collections by a half-time or two-thirds time salary.[25] These class-pay lessons were given once a week from thirty minutes to one hour in length. Where individual lessons were given, they were limited to fifteen to twenty minutes. Although large classes were often assembled, Glenn Woods states that "from experience and experiments, it has been learned that the best number to assemble is three, and never more than six pupils, in class instruction on any instrument, especially the violin."[26]

Between eight elementary instrument teachers in Oakland in 1918, 696 classes of violin instruction were given each week. Each teacher taught between 74 and 205 lessons per week of all band or orchestral instruments in each school assigned. The largest number of classes given was in violin by far, following the 696 for violin was cornet, 219, clarinet, 83, snare drum, 64, alto horn, 26, piano, 32, with cello trailing in at 12 lessons per week, string bass at 9, and viola at 6.[27]

Pupils beginning instrumental instruction in the elementary school classes pursued these for at least one year before being accepted to orchestra. All members of the string family were recommended for every string class so that the pupils grew up in a complete string section as a matter of course. The most serious problem in the larger string classes was the matter of tuning. A tuning procedure outline in 1928 by Maddy and Giddings involved all beginning string students.

> Teacher sounds A on pitch pipe or piano. Pupils all sing "Do" to this tone, sustaining it steadily while they pick the A string and turn the peg until the tone of the instrument matches the voice . . . . Each pupil stops tuning as soon as his string is in tune, but still sings the tone softly and steadily until all have tuned and ceased plucking the strings. When the A strings are all tuned, the pupils call the A "Sol" and sing down to "Do" and tune the D strings in the same way . . . . The teacher should tell the pupils to turn the peg until the pitch of the string is a little higher than the vocal tone and then either pull the string until it is in tune or turn the peg back a little.[28]

Violin class books in use mentioned by Woods in 1920 included: Mitchell's Class Method, Municipal Loose Leaf Method, Zanger's Twelve Easy Violin Quartets, F. Herman's Forty-five Short Pieces for Three Violins, and Maddy and Giddings' Universal Teacher.[29]

Once a start had been made in instrumental classes, strings were accepted in the grade school orchestra. This took the place of advanced technique classes, which were generally not offered at the time. Instrumentation was very unbalanced. Violins were kept on the first violin part as the piano duplicated the second violin part. Violas, cellos, and bass players were rare in most schools. Mr. Woods had a fairly large orchestra in 1920 combining eligible players from various elementary school orchestras in Oakland. He had a fairly complete instrumentation of twenty first violins, fifteen second violins, one viola, three cellos, one string bass, three flutes, four clarinets, four cornets, four horns, two trombones, one tuba, three drums, two oboes, one bassoon, and one melody saxophone.[30]

Rehearsals for this orchestra were held once a week, from 4:00 to 5:00 on Fridays, playing semi-classical music. The wind section was double the usual number employed to assure representation of all parts at every rehearsal. Beginning orchestra folios in use in 1920 included: Ascher's Beginner's Orchestra Folio, Ditson's In Toneland, Fox's Favorite Folio, Jenkins' Beginner's Orchestra Folio, and Pepper's Champion Folio.[31]

Maddy and Giddings suggested in 1926 that all beginners should start together in an orchestra ensemble, meeting every day. Everything needed for the progress of the pupils was to be taught in this orchestra. They stressed that this was a very high ideal, one that the school systems of the day could manage. A weekly plan was to be presented so students would not miss class all five days of the week.

Monday -- string section
Tuesday -- full orchestra ensemble
Wednesday -- flexible: either wind,
string, or full ensemble
Thursday--wind section
Friday--full ensemble[32]

The demand for teachers often exceeded the supply. Often the kindergarten teacher was the logical person to take over the instrumental organization. This seems to have been quite common in the 1920's.[33]

By 1939 three plans or organization of instrumental instruction were in wide use in the country. The first and oldest method was an orchestra, consisting of students who had studied privately rehearsing after school hours. The balance and instrumentation of the orchestra were dependent on chance. The director was frequently unable to play more than one single instrument.

In the second approach there was an instructor who could play or teach all the instruments. Class instruction was given free or at a very low fee during school hours or after school. Groups of like instruments ranged in attendance from five to twenty students per class. Those making sufficient progress were usually transferred to an orchestra after three months to one year. Technical attainment was stressed, as in the first plan, as a prerequisite to entering orchestra.

In the third approach, orchestra and class instructional groups were conceived as parts of a single unit. Students, whether beginning or advanced, all played in the same organization, and special parts were written for them so that each child progressed at the level of his own development.[34]

According to Dykema and Cundiff in 1939, another level of instruction had been added. "No longer are these school classes used merely as introductory classes which teach a few rudiments and then direct the children to private teachers. A number of schools are now giving classes in second, third, fourth, and even more advanced instruction."[35]

A direct method approach was preferred in teaching instrumental classes. In 1946 Brooks and Brown stated that

> In the last few years instrumental music in elementary schools has been justified because of its own acknowledged educational values. It is now recognized as one of the important modes of expression which the child has for the great inner impulse with which he is consumed. Its educational value lies in the fact that it furnishes another opportunity for self-expression on the part of the child. Like song singing, it is a language.[36]

The first Music Education Source Book, published in 1947, is a valuable reference in looking at the instrumental music classes of that decade. Preliminary experiences by this time were considered important to paving the way for instrumental class lessons. These

> 2. To adapt the proper instrument to each individual performer.
>
> 3. To assist in determining the advisability of the pupil's continuing in instrumental work.
>
> 4. To develop interest to the point where the individual might desire private instruction.
>
> 5. To develop correct habits of ensemble playing.
>
> 6. To provide an opportunity for the individual as a member of a group to overcome some of the technical difficulties of playing an instrument, which might be discouraging if attempted by him alone.[42]

A North Central Division study was made in 1945 to try to explain why interest in stringed instruments had begun to diminish during the thirties. The facts as they were faced in the forties: "string teaching has been mediocre, teacher-training institutions have been lax about insisting that undergraduates preparing for instrumental work in music education should have adequate training in the playing and teaching of string instruments . . . summed up, it could be stated that where there was good string teaching and planning there was no diminishing of interest."[43]

One of the biggest complaints was that the "vast majority of string classes are enrolled, instructed, and administered with the same general principles and procedures which were the vogue in 1930."[44] Recommended were materials needed for beginning orchestras which would correlate with the beginning books for strings, favoring sharp keys. The study of class stringed instruments was recommended to be started one or two years in advance of wind instruments, with more instruction done with violas, cellos, and basses. Better teacher training was requested, so that teachers could learn how to teach the combined stringed instruments.[45]

From 1950 onward, new approaches and techniques in instrumental class teaching were used. Building from the experiences of the teachers of the first half of the twentieth century and able to profit from their successes and mistakes, was a new generation of teachers. Today, instrumental music is deeply ingrained in most of America's public schools. Hopefully it is there to stay.

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27. Ibid., p. 61.

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39. Ibid., pp. 62-63.

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# THE ROLE OF ETHNOMUSICOLOGY IN MUSIC EDUCATION

(An abridged version of a paper given at the Music Educators National Conference in Miami, Florida, April 1980)

Lewis B. Hilton (Retired)
Washington University, St. Louis

The Commission on Teacher Education (MENC) issued a final report in 1974 in which this author was privileged to take an active part. Six years later it still seems to speak as clearly as any publication about what many of us would like to believe is the cutting edge, as it were, of American Music Education. Obviously it borrowed heavily from such projects and curricula as the Comprehensive Music Project, the Manhattanville curriculum, and various pioneering writers, especially English and Canadian, such as Paynter, Aston and Schafer. After describing the pre-service preparation needed for a music teacher who would be competent to teach such a curriculum, it also sought out and described twenty some university curricula which at least were moving in this direction. All of the authors realized at the time that the demands to be made on such a teacher were unrealistically optimistic for a four-year curriculum and perhaps an eight-year period of training. But of such not only dreams are made, but directions for improvements are suggested, and the catalysts for change (which are the real purposes for such a publication) may be sufficiently powerful to help lead us away from the "overemphasis on performance for public relations" towards something which might truly be called Music Education. (Although this sort of self-flagellation seems to be out of style at the moment, I do not think it is harmful to indulge in a bit of it. We still need it.)

It seems to me that the very center of all the proposals, in fact the basis for what are deemed to be desirable directions for music education in the eighties, is the notion that the function and the *raison d'être* for music in our schools is to offer to our students such a banquet of variegated musical victuals that those seated at the board, the partakers of such a variety of tastes, will be able to make their own educated choices of that which the musical world has to offer. It has often been suggested that the real music teacher is the disc jockey. Except for the existence of those very few unusually gifted vocalists or instrumentalists who make music an important part of their lives, either professionally or avocationally after high school, one finds it difficult to dismiss this unfortunate condemnation of what we as music teachers actually accomplish. If our curriculum consists of fun and games, performances for public relations, and worst of all, merely offerings of what the student is subjected to on radio, TV, or Muzak, it would only be honest to admit that music in the schools is a frill and not worth the money, time and effort to continue the program, much less demand that music have a central and equal place in the total curriculum along with mathematics, reading, etc. We can only justify our existence by teaching about *musics*, the roles of musics in many societies, giving our students the opportunity to listen, perform, and compose in many idioms; in short, to give them more of real substance than they would get if the school music curriculum did not exist.

There is a need for change, and the core of all strategies leading to desirable changes, I believe, is student participation and variety, aesthetically, cognitively, and intellectually. Finally, then we arrive at the real purpose for this harangue, i.e., the need for ethnomusicology to become a central part of music teacher training, not only because this discipline deals historically and contemporarily with all varieties of music, but equally important, its study engenders a sociological attitude towards the uses of music and aids in the abolishment of snobbism, narrow mindedness, and the thin musical diet (to use our nutritional metaphor once more) which all too many of us offer our students. An important aspect of training in ethnomusicology is the methodology employed which in itself is of enormous importance in dispelling any notions about "improvement" over the centuries of music and musicians or the superiority of "civilized" music as opposed to "primitive" music. These terms take on a totally different meaning, if they retain any significance at all.

I should like to be very practical and as helpful as possible in this brief paper in giving some direction to the practicing school music teacher as well as the university music staff engaged in training music teachers. I must confine myself to two facets of this task. These facets will be (a) an introductory bibliography, and (b) a few suggestions concerning ethnomusicological methodology which I have found to be useful both in working with pre-university and university students.

First the bibliography. One can do no better than start with a thorough reading of

David Reck's Music of all the Earth, available both in hard cover and paperback. This book is also not over the heads of literate secondary school students and is lavishly illustrated. It introduces the reader to the point of view of the ethnomusicologist, to some methodology, and to an enormous variety of music and uses of music of the earth. The author, of course, believes that music is not a language, properly regarded, and certainly not a universal language. He does, however, go so far as to suggest that we may be approaching something towards a universality of musical expression and that if we are, its roots will be black American mixed with Latino rhythms and timbres. This is certainly a precarious position to take, but worth considering.

More specialized, but a logical next step, is to become acquainted with some of the writings of eminent ethnomusicological practitioners who write in a manner which is easily comprehensible to the nonspecialist. As a starter, I would suggest Merriam's The Anthropology of Music, Nettl's Music in Primitive Culture (I do not like the title), Barnett's Invocation: The Basis of Cultural Change, and perhaps Farnsworth's The Social Psychology of Music. (See Bibliographical Entries for all of these.)

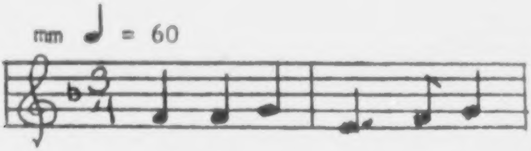
As to a sampling of pedagogical techniques drawn from ethnomusicology which are applicable in a Brunerian or cyclic sense to almost any music teaching level from the intermediate grades through graduate school, including non-music majors, let me cite but two. Both are a bit primitive and simplistic, require almost no equipment other than that which is normally available to every music teacher, but are useful and can be applied to the study of any music. At this point, let it be made clear that music in this paper is regarded as any series of events involving perceived sound and silence in time.

Strategy Ia. Teaching the concept of cents, i.e., 100 cents per semitone. After this has been accomplished, use standard graph paper (or make your own), develop and practice a notational system which is both useful in ear training and the encouragement of very discriminating listening as well as aiding in abolishing the notion of the sanctity and/or universality of the chromatic, major, minor, pentatonic, or any other pitch arrangement (scale).

To begin with, let us take the grid and arbitrarily assign the X axis to a time module and the Y axis to a certain number of cents (pitch).

Note that in this case, the space between each vertical line represents 1/2 second and the space between each horizontal line twenty-five cents (1/4 tone).

Next, sing a segment of a familiar tune, let us say, America.

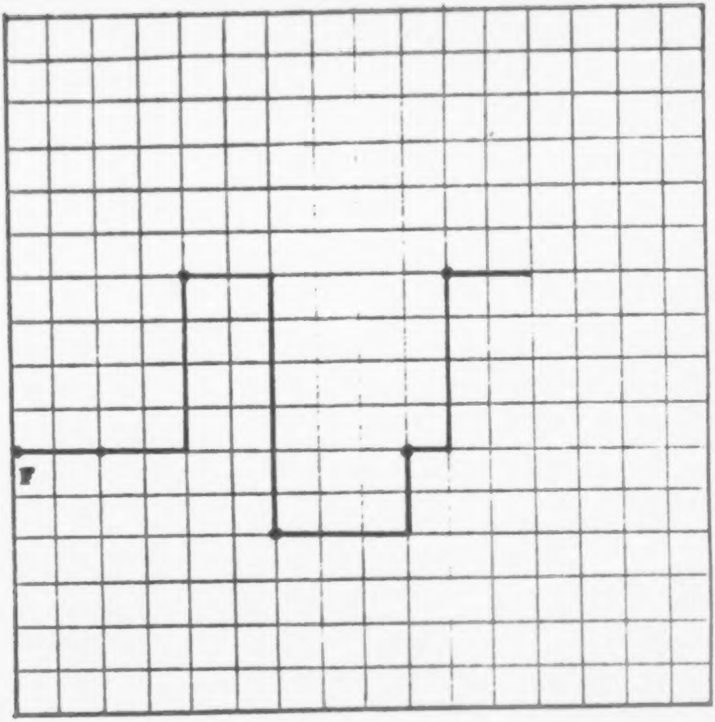


Now write the tune on the grid. (Thus far we are dealing only with familiar intervals and durations (rhythms). Use a metronome set at 120. Plot the dots and connect them.

A horizontal line implies only a prolongation of a pitch. A vertical line simply connects the pitches and refers only to a lack of glissando or portamento. In subsequent illustrations a diagonal, curved or jagged line will refer to some kind of glissando or portamento.

Before proceeding, it should be made clear that the use of a grid or graph using cents is not an accurate substitute for sophisticated electronic equipment which can very accurately show frequency levels. This is at once an advantage and a disadvantage. It is advantageous in that the student must make an increasingly educated guess in recognizing micro or macro tones, and disadvantageous because of the inaccuracy. (Of course an instrument such as a Stroboconn can be helpful and is available in many instrumental rehearsal rooms.) But the aim of this kind of strategy is to teach listening in the most precise meaning of the word for unfamiliar intervals (nonwestern for the most part) and coming to the realization that the semitone, as heretofore mentioned, is no more or less recognizable and memorable to the human ear than an interval of, let us say, twenty-five cents, seventy-five cents, or one hundred twenty-five cents. Furthermore, this kind of ear training is invaluable in the study of vibrato and portamenti which are so much a part of the western tradition, particularly in vocal music. So, let us proceed to what we shall call:

AMERICA



Vertical space = 25 cents (1/4 tone)
Horizontal space = 1/2 second

Strategy Ib. Tape a recording of a vocal rendition of America (sung by a member of the class) at 7-1/2 i.p.s. Reverse the tape to the beginning and play it back. Reverse it again to the beginning. Set the speed of the tape recorder to 1-7/8 i.p.s. Note that what at first appeared to be perfectly "straight" tones contain a certain amount of "wobble," and that there is probably some degree of portamento between pitches. Furthermore, unless a metronome was used, the duration or rhythm will not be exactly "accurate." Attempt to graph this version.

We have not the time to pursue this to its logical conclusion, and the equipment may not always be available if, for example, no tapes are owned by the school of various ethnic musics. It is then necessary to use, let us say, an Ethnic Folkways recording of perhaps a North American plains Indian song. Transfer the recording to tape at 7-1/2. Play the tape first at 7-1/2, then at 1-7/8. Graph a portion of the piece. Note that traditional pitch notation, or even rhythmic notation, can do no more than give a misleading representation of the music. Of course the graph, if done "by ear," will also be an approximation but a much more accurate one. And the important lesson will be reinforced: the necessity for very intense attention when listening to really "hear" music and the variety of intervals discernible.

This method can easily be extended to include other musical dimensions such as timbre, e.g., let a line with X's represent nasal, raucous, sweet or whatever. The possibilities are almost endless. Glissandi and portamenti may be added.

Strategy II is an adaptation of Alan Lomax' Cantometrix. It is for our purposes a pedagogical strategy which, like Strategy I, has as its purpose the training of students to listen very closely, and in this case, to classify. First we must choose the dimensions of music to which we want to pay careful heed. Let us, for a simple beginning, use loud, soft, sound vs. silence and timbre. We then employ a scale for each of these, perhaps one to five, with one the lowest and five at the top in terms of importance in the compositional and performance techniques used in a particular piece of music. (We can, of course, further break down timbre into as many different categories as we want, e.g., 1-a=shrill, 1-b=raucous, 1-c=sweet. We are deliberately eschewing the use of technical terminology.) A paradigm can then be constructed which might resemble the following:

| Degree of Importance (Low to High) | | | | | |
|---|---|---|---|---|---|
| Music Dimension | 1 | 2 | 3 | 4 | 5 |
| Mostly Loud | | | | | x |
| Mostly Soft | x | | | | |
| Loud vs. Soft | | x | | | |
| Timbre Dominance | | | | | 1a |
| Sound vs. Silence | | x | x̄ | | |

This might describe a rock piece. Then play a variety of pieces of difference genres, including at least one other rock piece. It may be surprising to find that in using this scheme a piece from a completely different period or genre actually uses compositional techniques more similar to the first rock piece than some other piece of rock music.

These two strategies, simple as they appear, are legitimate ethnomusicological techniques, although modified and simplified. It has been my experience to find that they are practical and accomplish the purposes for which they are intended. Listening has been stressed in this paper, but the technique is equally applicable to composition and performance.

I must end by confessing that I have in no way attempted to test these strategies experimentally. I can, at this point, only rely on what my students of various levels of sophistication have said. Perhaps some one will be tempted to carry out a controlled experiment, although it would be rather difficult and take years to prove any superiority or inferiority of these techniques compared to more traditional ones in terms of lasting effect on students.

Doctoral dissertation writers--aux armes!

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ABLE

# ABSTRACT

## THE HORN IN THE MUSIC OF GUSTAV MAHLER

Edward J. Bostley, D.M.A.
University of Missouri-Kansas City, 1980

The modern French horn enjoys a unique and rich heritage which can be traced to the mid-seventeenth century. During this period of approximately three hundred years, both the instrument, and the music written for it, have evolved from a primitive and limited role to that of a varied and significant position in all aspects of contemporary concert music. Throughout this evolution, though, the earliest traditions of hunting-horn style and hand-horn performance technique maintained a conspicuous influence on horn performance well into the nineteenth century in spite of mechanical advancement in horn design with the availability of a valve system developed circa 1815. The potential of a chromatic horn, which the valves provided, did not receive immediate approval by the musical community of the early nineteenth century. Rather, the preservation of the tone quality inherent in the natural horn was held in much greater esteem than the technical advantages made possible on a valved instrument. The valved horn finally received acceptance by most orchestral horn players by the end of the nineteenth century. This was precipitated by the increasing demands placed upon the instrument by the composers of that period.

Mahler's music, which spans the period in question, circa 1880-1910, provides a convenient microcosm of the instrument's transition into the

modern horn of the twentieth century. Increasingly, throughout the nineteenth century, the scope and function of the horn was expanded in orchestral music, but its traditional nature tended to remain intact. In the music of Mahler, the orchestral horn gradually assumed new and varied functions and powers of expression. No longer confined to the brass section for identity, the horn becomes an equal partner with the woodwinds and strings, and is often linked with unusual instruments such as the guitar and mandolin. Perhaps the most significant aspect of the nature of the horn in Mahler's symphonies is its emergence as a solo voice, an independent figure which is no longer identified with the hunt or other stereotyped connotations described by many music critics and historians.

To develop a basis in which to analyze Mahler's use of the horn in comparison to its function in the music of other composers, frequency charts catalogue those significant factors that help to define a prevailing performance style. Although there are many aspects which make up an instrumental style, the categories selected for the charts represent the opportunity to collect data consistent with all the works represented in the charts including selected orchestral music from the eighteenth and nineteenth centuries. The two main categories, the frequency with which the horn actually appears in a given work (and its degree of prominence), and the frequency of the use of the "high" register of the horn, identify major considerations that constitute an idiomatic nature of the instrument.

Other aspects such as complexity of a given horn passage (frequency of sixteenths, tempo, wide intervals, etc.), the linkage of the horn with other instruments and instrumental families, and the role of dynamics and other means of instrumental coloration, defy specific classification in the works of Mahler. The complexity of Mahler's orchestrational technique places new demands on each of the instruments, and likewise the emotional content of his music is reflected in a requirement that each instrument is pushed beyond its traditionally idiomatic limitations.

It is the purpose of this study to trace the nature and function of the horn in the works of Mahler in an attempt to identify those aspects of change and expansion which mark the growth of the horn during that era.

## ABSTRACT

## ASPECTS OF THE COMPOSITIONAL STYLES OF THREE SELECTED TWENTIETH-CENTURY AMERICAN COMPOSERS OF CHORAL MUSIC: ALAN HOVHANESSS, RON NELSON, AND DANIEL PINKHAM

Dennis K. Cox, D.M.A.
University of Missouri-Kansas City, 1978

The purpose of this study is to compare and contrast salient aspects of the compositional styles of selected choral works of Alan Hovhaness, Ron Nelson, and Daniel Pinkham. These composers were selected primarily because they are significant as important representatives of twentieth-century American choral composition. Both Hovhaness and Nelson have utilized Far

Eastern compositional devices in their works. In addition, each composer writes in a style characterized by eclectic diversity. This eclectic orientation of each composer represents an important similarity between them and serves as a focal point of the research.

The investigation concerns each composer's works from both general and specific viewpoints. In order to accomplish this end, each of the first three chapters is organized into two parts. The first part contains a general discussion of the important stylistic characteristics of one composer as represented by an investigation of several of his significant works. The second portion is devoted to a more detailed analysis of each composer's style as reflected by one significant major composition.

Chapter four contains conclusions and charts of stylistic comparisons. The comparison charts contain information relating to twenty-one components of musical composition. These comparisons include the areas of preferred textual sources, treatment of rhythm and tempo, melodic construction, harmonic vocabulary, contrapuntal design, form, sonority, texture, strata of sound, balance of parts, economy of material, development, idiomatic writing, parameters of dynamics, manner of utilizing chorus, instrumentation, unified vs. concertato treatment, consistency of writing, original intent of music, influences, and philosophy of composition. As an aid in the gathering of research data, three questionnaires were sent to the composers.

The findings support the hypothesis that Hovhaness, Nelson, and Pinkham share common orientations in their eclectic approach to choral composition. In their selection of a wide variety of twentieth-century compositional devices, however, the three composers reveal significant differences. Hovhaness and Nelson incorporate Far Eastern materials into their compositional styles while Pinkham searches for novel sonorities by revitalizing many forms of the Baroqùe and Classical periods.

## ABSTRACT

### A STUDY OF STYLISTIC CHARACTERISTICS IN SELECTED MAJOR CHORAL WORKS OF NORMAND LOCKWOOD

Tony M. Davis, D.M.A.
University of Missouri-Kansas City, 1980

The purpose of this study is to discover and identify those stylistic characteristics which may be found in selected major choral works of Normand Lockwood which would be beneficial to the conductor in interpreting and preparing these scores for performance. These works were chosen for study because they represent a significant contribution to this genre by a living American composer. They also represent a significant portion of Lockwood's choral writing.

The investigation analyzes the works from both general and specific viewpoints. A brief biographical outline of Lockwood is given with comments by the composer about the early influences on his writing. Stylistic characteristics of vocal writing, melody, harmony, rhythm and meter, text, texture, and performance practice. The characteristics analyzed in each chapter

are discussed and examples from the works are used to illustrate the characteristics specifically. Detailed interviews with the composer concerning aspects of his choral writing have been conducted as an important part of this study. This information is contained in the document. An annotated list of the works studied, a list of other choral works by Lockwood, and a list of publishers are contained in appendices at the end of the document.

The study supports the hypothesis that Lockwood's approach to the musical elements analyzed is consistent throughout the works examined. Therefore, certain stylistic characteristics may be identified and ascribed to Lockwood. Although some works are unique in their approach to specific characteristics identified in the study, other characteristics are common in all of the works.

Conductors should be aware of the importance of the text, proper accompaniment, text illustration, and expression in preparing and performing these works. Lockwood's specific performance indications in the scores should also be carefully observed.

## ABSTRACT

## THE CHORAL MUSIC OF RANDALL THOMPSON, AN AMERICAN ECLECTIC

Byron W. McGilvray, D.M.A.
University of Missouri-Kansas City, 1979

This thesis was conducted to provide a study of the choral music of the American

composer Randall Thompson, and to determine how both musical and extra-musical forces influenced his choral output. It was considered a significant study because Thompson occupies a very important place in American choral music, and because little written material is available about either the composer or his music. The material that does exist is usually limited to coverage of a single composition.

This thesis, by necessity, was limited to certain areas of study. The study included: a short biographical sketch of the composer, an investigation of his philosophies on music and composition, texts, and teaching, the influence modal and tonal counterpoint and American music had on his compositions, and a descriptive analysis of the major choral works. All of the choral music was thoroughly studied, but the incidental pieces were not covered in the narrative because there are no discernible differences in style between them and the larger works.

Material was gathered from many sources, most of them primary. Extensive personal interviews were conducted with Randall Thompson. Additional telephone conversations and correspondence were used. Personal interviews and correspondence with some of Thompson's colleagues and students added to the data. Written materials by and about the composer and his music were studied: these included reviews of performances of his works, unpublished texts of speeches the composer delivered, articles in journals, and entries in dictionaries and other books. In addition to the choral music, all of the instrumental music and solo songs were studied.

It was concluded that Randall Thompson is basically a nationalistic American composer. His compositions are for American audiences, use American texts, and are influenced by American sounds. This characteristic is by design, not by accident. He is not an innovator. His musical language was established early and has changed little, if any, during his productive life. Because of the variety of influence on his compositions, it must be concluded that he is an eclectic. However, his writing style is distinctive and individual, and his music enjoys wide appeal.

## ABSTRACT

## A COMPARISON OF TWO APPROACHES OF TEACHING BRASS INSTRUMENTS TO ELEMENTARY SCHOOL CHILDREN

John J. Milak
Washington University, St. Louis

The purpose of this study was to compare two instructional methods for beginning brass instrumental students. Both methods were one semester in length, had similar goals, and were structured according to the types of learning set forth by Robert Gagné. The Imposed Learning Method was based on the supposition that the instructional designer imposes the type of learning required by the students on the subject matter, and the Subject Matter Method was based on the supposition that the subject matter determines the type of learning required by the students.

The methods differed according to the type of practice and to the methodology and materials used to introduce pitch and rhythmic notation. The Imposed Learning Method advocated supervised practice, introduction to pitch notation, beginning from a one-line staff and progressing to a five-line staff, and introduction to rhythmic notation beginning with beat signs and grouping and progressing to traditional rhythmic notation. The Subject Matter Method advocated unsupervised practice and introduction to pitch and rhythmic notation through traditional techniques.

The methods were taught to eight classes of mixed trumpet and trombone students in the fourth and fifth grades at two schools. A music achievement test was administered before and after the methods, and a performance test was administered after the treatments. The results of these measurements were tested for statistical significance with two Analysis of Variance designs and a correlation analysis.

The results of the analysis indicated that there was a significant difference at the .05 level of confidence between both the achievement and performance levels of the students because of the methods, and that the classes which received the Imposed Learning Method scored significantly higher than the classes which received the Subject Matter Method. The methods produced similar results in both grade levels and in both schools. The factors associated with the pedagogical differences within the methods were not measurable in the test scores. The factor of music achievement was influenced by the methods and schools and was related to previous knowledge of music, but independent of IQ and class rank. The factor of music performance was influenced by the methods and was independent of school effects, previous musical knowledge, IQ, and class rank.

In summary, there is a need for a continuous process of research in music education including testing and retesting new approaches and theories to provide music educators with effective and efficient ways of teaching music. Research in music education is open-ended and has many avenues to explore. Researchers are just beginning to understand and untangle the complex relationships of variable in the teaching-learning process which effect the development of attitudes, cognitive skills, and psychomotor skills in music. Research involved with teaching approaches and theories such as those developed and tested in this dissertation attempt to move research closer to the real world of music in the classroom and provide music educators with useful information concerning the teaching-learning process. The finding that one method proved superior to another was not the most important conclusion of this dissertation, but rather that it is possible to construct teaching strategies based on sets of interrelated variables which have a significant effect on the learner. Hopefully, this conclusion will further research and development of methodology in music education and serve as a model for future research.

## ABSTRACT

## AN APPLICATION OF THE PRINCIPLES OF CARL ROGERS AND JEROME BRUNER TO A MUSIC METHODS COURSE FOR ELEMENTARY EDUCATION MAJORS

Mary Ann Mulligan, Ph.D., Music Education
Fontbonne College, St. Louis

The purpose of this study was to determine the characteristics of a music methods course for classroom teachers based on the theories of Carl Rogers and Jerome Bruner. Answers were sought to the following questions: (1) What are basic principles of the theories of Rogers and Bruner? (2) What are the objectives of a music methods course for classroom teachers? and (3) What are the distinguishing features of a course based on these principles?

The basic principles of Rogers and Bruner were determined by an examination of their writings pertaining to education. The principles were synthesized according to those which guided the acquisition of knowledge and skills, and those which guided the acquisition of attitudes. The principles adopted for the purposes of the course were:

> A process-centered approach is the most effective approach to a subject.
>
> A subject can be converted into a form appropriate to the given level of development and understanding of the learner.
>
> The subject must have meaning for the learner and should provide its own records.
>
> The facilitation of meaningful learning depends upon the trusting interpersonal relationship between the teacher and the learner.

The objectives of the course were determined by adopting the recommendations of the Teacher Education Commission of the Music Educators National Conference. The musical behaviors recommended for classroom teachers were: skills in making sounds, organizing sounds, hearing sounds, and teaching.

The principles were applied to a course being taught at Georgia State University during the 1972-73 term. The course was revised after each quarter in order to meet better the objectives and follow the principles. Most of the alterations were attempts to provide a climate of greater freedom through provision for more individualization and independent study.

The distinguishing feature of the course thus taught was that it was student-centered, with the teacher assuming the role of facilitator. Grades were minimized and students pursued self-chosen goals, studying independently in an open-informal laboratory setting. The students were given considerable opportunities to deal directly with music and with teaching in order to grasp the structure of the discipline, while at the same time they were allowed to trust their own feelings and direct their own learning.

The study was of an exploratory nature and was not designed to provide empirical data with which to compare the course developed with traditional courses. However, an effort was made to obtain informally the collective subjective opinions of the participating students. Conclusions were based on these and on the subjective observations of the instructor. The course was considered as effective in reaching the objectives as any in the past experience of the investigator. The attitudes of the students were more positive toward the discipline of music and toward teaching music than the attitudes of students in previous courses. The final proof of the success will be found in the classrooms of the students involved when they enter the teaching profession. Present results suggest a positive musical future in those classrooms.

It is recommended that further revisions in the course include more observations of successful classroom teachers and the provision of more strategies which especially emphasize the making of musical decisions, the place of creativity with sound, and step-by-step explanations which guide the student more directly to the desired outcomes. It is also recommended that methods be devised and employed which would obtain objective evidence concerning the attainment of course objectives, such as longitudinal studies, case studies and documentaries, and controlled studies determining more or less effectiveness of the course.

## ABSTRACT

## ITALIAN SOLO AND CHAMBER MUSIC FOR THE CLARINET--1900-1973: AN ANNOTATED BIBLIOGRAPHY

Orval B. Oleson, D.M.A.
University of Missouri-Kansas City, 1980

The purpose of this dissertation was to prepare an annotated bibliography of solo and chamber music for the clarinet written by Italian composers between the years 1900 to 1973. Only compositions for instruments are contained in this bibliography. These include pieces for unaccompanied clarinet, duos, trios, etc., up to and including octets. The goal of

the author was to provide clarinet instructors and students, as well as performers, with a source of information concerning a virtually unknown and unplayed portion of the repertoire.

The author compiled an extensive list of appropriate compositions and set about the task of finding and studying the music. Many items were located at the Indiana School of Music Library, and an even greater number were found in the Library of Congress in Washington, D.C.

The dissertation is in two parts. The first part is an explanation of the purpose, organization and scope of the study. The second part consists of the annotated bibliography. Each bibliographic entry consists of the following parts: (1) composer's name, (2) composer's dates, (3) title of the composition, (4) instrumentation, (5) date of composition, if known, (6) dedication, if one exists, (7) location and name of the publisher, (8) date of publication, (9) range of the clarinet part or parts, (10) duration, (11) movement titles and/or tempo indications, (12) biographical sketch of the composer, (13) description of the composition, compositional techniques, and possible performance problems.

Four appendices are included at the close of the dissertation: one, an alphabetical list of the compositions; two, the compositions listed according to instrumentation; three, a chronological list of the compositions; and four, a list of those works not included in present clarinet repertory listings.

The bibliography consists of ninety-six compositions representing the work of sixty different Italian composers. Forty-six of these works are not mentioned in present clarinet repertory listings. The intent of this dissertation is to enable clarinet instructors, performers, and students to expand the current repertory by including these Italian works in concerts and recitals.

## Table of Contents

Chapter

I. THE PURPOSE, ORGANIZATION, AND SCOPE OF THE STUDY
  - The Purpose of the Study
  - Organization and Scope of the Study

II. ANNOTATED BIBLIOGRAPHY
  - Albisi, Abelardo: Divertimento (No. 3)
  - Albisi, Abelardo: Divertimento (No. 7)
  - Albisi, Abelardo: Miniature Suite No. 2
  - Albisi, Abelardo: Solo di Concerto
  - Bartolozzi, Bruno: Concertazioni a Quattro
  - Berio, Luciano: Concertino
  - Berio, Luciano: Opus Number Zoo
  - Bettinelli, Bruno: Studio da Concerto
  - Bettinelli, Bruno: Tre Invenzioni
  - Bortolotti, Mauro: Parentesis
  - Bortolotti, Mauro: Studi
  - Bossi, Renzo: Tema Variato, Op. 10a
  - Brero, Giulio Cesare: Divertimento
  - Brescia, Domenico: Suite
  - Brescia, Domenico: Second Suite "Rhapsodic"
  - Bucchi, Valentino: Concerto
  - Busoni, Ferruccio: Concertino, Op. 48
  - Busoni, Ferruccio: Elegie
  - Camillucci, Guido: Due Danze
  - Carabella, Ezio: Suite

Casagrande, Allessandro: *Frasi per Sette Strumenti*
Casella, Alfredo: *Serenata*
Casella, Alfredo: *Sinfonia*
Castelnuovo-Tedesco, Mario: *Concertino*
Castelnuovo-Tedesco, Mario: *Sonata, Op. 128*
Castiglioni, Niccolo: *Tropi*
5
Cattolica, Gilfredo: *Duo*
Clementi, Aldo: *Tre Piccoli Pezzi*
Clementi, Aldo: *Triplum*
Corghi, Azio: *Jeux*
Corghi, Azio: *Musica 3*
Coscia, Silvio: *Septet for Winds*
D'Ambrosi, Dante: *Introduzione e Allegro*
Donatoni, Franco: *Etwas Ruhiger im Ausdruck*
Donatoni, Franco: *For Grilly, Improvvisazione per 7*
Fellegara, Vittorio: *Ottetto*
Ferrari, Giorgio: *Improvvisazioni Concertanti*
Ferrari, Giorgio: *Improvvisazioni per Raffaele*
Frugatta, Giuseppe: *Suite, Op. 44, No. 1*
Gabucci, Agostino: *Aria e Scherzo*
Gabucci, Agostino: *Sixty Divertimenti*
Garguilo, Terenzio: *Serenata*
Gentilucci, Armando: *Cile, 1973*
Gentilucci, Armando: *Concerto per Cinque Strumenti*
Gentilucci, Armando: *"Diagramma"*
Gentilucci, Armando: *Diario II*
Gentilucci, Armando: *Epitaffio per Cesare Pavese*
Ghedini, Giorgio Frederico: *Concerto a Cinque*
Giampieri, Alamiro: *Fantasia*
Giampieri, Alamiro: *Sei Capricci*

Grossi, Pietro: *Composizione No. 3*
Lorenzo, Leonardo de: *Pizzica-Pizzica, Op.37*
Lorenzo, Leonardo de: *Due Divertimenti, Op. 24*
Lorenzo, Leonardo de: *I Quattro Virtuosi, Op. 80*
Lorenzo, Leonardo de: *Suite Mythologigue, Op. 38*
Lorenzo, Leonardo de: *Trio Eccentrico, Op. 76*
Lorenzo, Leonardo de: *Trio Romantico, Op. 78*
Malipiero, Gian Francesco: *Dialoghi IV per 5 Instrumenti*
Malipiero, Gian Francesco: *Sonata a Quatro*
Malipiero, Riccardo: *Giber Folia*
Malipiero, Riccardo: *Musica da Camera*
Mannino, Franco: *Les Feuilles d'Automne, Op. 72*
Mannino, Franco: *Mini Quintett, Op. 74*
Manzoni, Giacomo: *Musica Notturna*
Margola, Franco: *Tre Studi da Concerto*
Micozzi, Antonio: *Notturno*
Montanari, Nunzio: *Cinque Invenzioni*
Napoli, Carlo: *Hommages a Prokokieff-a Stravinsky-ad Orff*
Napoli, Carlo: *Momenti*
Nielsen, Riccardo: *Sette Aforismi*
Petrassi, Goffredo: *Tre per Sette*
Pilati, Mario: *Inquietude*
Procaccini, Teresa: *Clown Music*
Prosperi, Carlo: *Quattro Invenzioni*
Quaranta, Felice: *Trattenimento Musicale*
Razzi, Fausto: *Invenzione a Tre*
Razzi, Fausto: *Quattro Invenzioni*
Renzi, Armando: *Cinque Bagatelle*

Ricci-Signorini, Antonio: *Fantasia Burlesca*
Rieti, Vittorio: *Quintet*
Rieti, Vittorio: *Silografie*
Rieti, Vittorio: *Sonata a Cinque*
Roto, Nino: *Petite Offrande Musicale*
Santoliquido, Francesco: *Due Pezzi per Cinque Strumenti*
Scelsi, Giacinto: *KHO-LO*
Scelsi, Giacinto: *KYA*
Scelsi, Giacinto: *Preghiera per un ombra.*
Scelsi, Giacinto: *Tre Pezzi*
Setaccioli, Giacomo: *Sonata in mi bemolle, Op. 31*
Tocchi, Gian Luca: *Arlecchino*
Togni, Camillo: *Aubade*
Turchi, Guido: *Trio*
Veretti, Antonio: *Divertimento*
Veretti, Antonio: *Fantasia*
Vlad, Roman: *Improvvisazione su di una melodia*
Zanaboni, Giuseppe: *Piccola Suite per Tre Fiati*

APPENDIX A: ALPHABETICAL LIST OF COMPOSITIONS

APPENDIX B. COMPOSITIONS LISTED ACCORDING TO INSTRUMENTATION

APPENDIX C. CHRONOLOGICAL LIST OF COMPOSITIONS

APPENDIX D. COMPOSITIONS NOT INCLUDED IN PRESENT REPERTORY LISTINGS

BIBLIOGRAPHY

VITA

# ABSTRACT

## THE DEVELOPMENT OF COMPRENSIVE MUSICIANSHIP IN THE SECONDARY INSTRUMENTAL MUSIC PROGRAM

Elvis O. Spearman
Washington University, St. Louis

The purpose of this study is to further the development of comprehensive musicianship in the secondary instrumental music program through a sequence of musical experiences which emphasize the integration of the dimensions of music rather than the continuation of traditional instrumental music practices.

Since the 1950's there has been an attempt on the part of concerned music educators and curriculum specialists to develop curricula which focused on musical understanding and knowledge. This development has been supported by some administrators, teachers, students, and parents interested in improving the quality of music programs in their schools.

Along with this development in what is commonly called "Comprehensive Musicianship" is an attempt to de-emphasize excessive public performances by high school bands, choirs, and orchestras; and to develop a program of instruction which will bring about a change in the future course of instrumental music pedagogy.

The first chapter of this study deals with the theories of Piaget and Bruner as they relate to stages of learning and learning readiness.

Piaget is concerned with the nature of knowledge and the conceptualization of the interaction between objects and the learner. Bruner's theories on structure, intuition, and readiness appear to suggest several concepts which can be used in the development of music curricula.

In chapter two, the curriculum principles of Ralph Tyler and Philip Phenix are cited because of their relevance to curriculum construction.

A brief summary of conferences, projects, and symposia effecting change in music education in the United States is discussed in chapter three along with recommendations for the improvement of music pedagogy in music programs in the schools of America.

In chapter four, a hierarchy of the dimensions of music is established with a brief explanation of the role each dimension plays in the temporal process of sound and silence.

Chapter four deals with the dimensions of music which enable students to become more aware of the interaction that takes place in the music(s) of all cultures and periods.

In the concluding chapter of this study, the author analyzes several musical compositions which cover the stylistic traits of western music from the Baroque period to the twentieth century. Also included in chapter five are objectives and strategies which can be used to alter the development of comprehensive musicianship in the secondary instrumental music program.

# ABSTRACT

## POETIC IMAGERY IN THE SONGS OF BENJAMIN LEES

Shirley A. Westwood, D.M.A.
University of Missouri-Kansas City, 1980

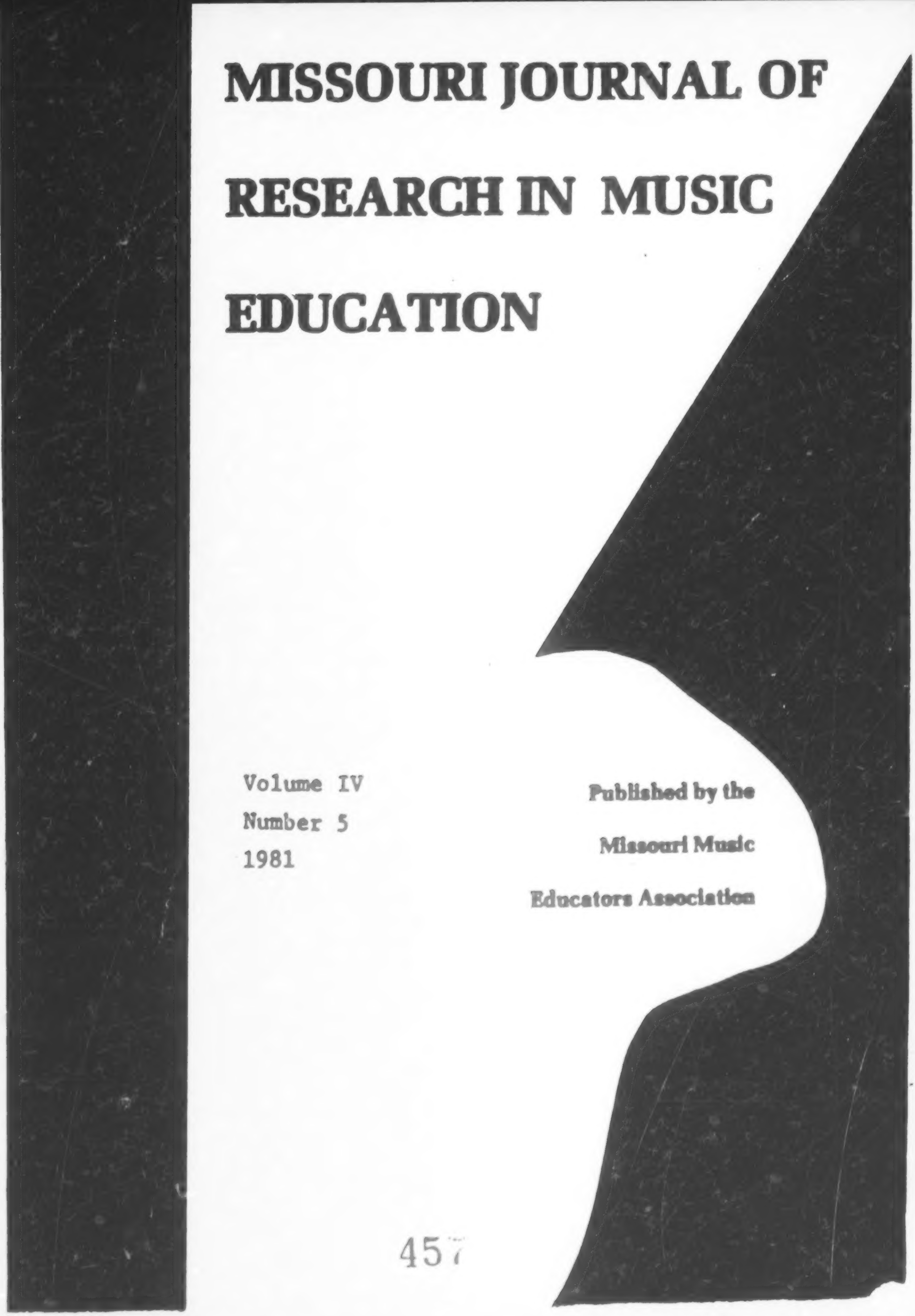
The primary purpose of the study was to identify and define the several compositional techniques used by composer Benjamin Lees in the process of composing music to the poetry of Richard Nickson. The song cycles analyzed were *Songs of the Night*, *Three Songs*, *Cyprian Songs* and "Staves." Several compositional techniques which are defined as significant by the composer were spin, expansion, driving motion, pulling out and exposing. These techniques were identified in the songs and examined for their effect upon the poetic concept. Further examination revealed how these techniques influenced the elements of rhythm and meter, pitch, duration, timbre and texture, and dynamic level. Recurring musical and rhythmical patterns were identified as "motifs" and traced throughout the songs as were the poetic motifs. Symbolism was discovered to be an element for the reproduction of the sound of the text or the poetic concept, while atmosphere recreated in music the prevailing mood of the poetry. Lees' self-defined use of "surrealistic elements" was observed and discussed.

The songs were analyzed and the analysis was examined by the poet and composer for confirmation. Personal interviews and numerous telephone conversations were held with both the composer and the poet. Articles about both

artists and newspaper reviews of their performances and publications were researched. Examination of the scores and poetry included the evaluation of taped performances of all the song cycles.

The results of this study show that a relationship does exist between the poetic concept and the musical realization of the text. The compositional techniques employed by Lees reveal a concern for the faithful representation of the texts and an enhancing of the mood of the poetry. A unique relationship does exist between the two artists.

The opportunity to discuss the music and poetry and this composer-poet relationship provided the signal incentive for the study.



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Educators Association

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Published by the Missouri Music
Educators Association

Volume IV 1981 Number 5

I. A Survey of the Evolution and Development of the Horn Style . . . . 7
Edward J. Bostley, University of North Carolina-Chapel Hill

II. The Effect of Approval, Disapproval, and Teacher Error on Classroom Attentiveness: High School Band versus High School Chorus . . . . . . 29
Denise E. Moyer
Shawnee Mission, Kansas Public Schools

III. A Comparison of Frequency Discernment Abilities . . . . . . . . . . . 41
Olin G. Parker, University of Georgia

IV. Editorial Perspectives in Sunday School Hymnals Published Between 1859 and 1898 which Reflect Educational Philosophy and Practice . . . . . . . . . . . . . . . 52
Mary Voogt

V. A Position Paper--Toward Knowing and Liking Musical Styles: The Heuristic Method . . . . . . . . . . 73
Patricia K. Shehan, Washington University in St. Louis

VI. Selected Abstracts in Music Education . . . . . . . . . . . . . . 83

A. Achievement of Pitch Reading and Rhythm Reading for Beginners and Advanced Piano Students Using an Aural-Visual Reading Instruction Model (AVRI) . . . . . . . . . . . 83
Mary Dawn Bledsoe, University of Missouri-Kansas City

B. A Study of the Vocal Registers and Transitional Pitches of the Adolescent Female . . . . . 84
Anita Cyrier, University of Missouri-Kansas City

C. Selected Aspects of the Historical, Psychological and Philosophical Principles of Instrumental Music Education in American Secondary Schools: A Secondary School Band Curriculum . . . . . . . . . . . 86
Aurelia W. Hartenberger, Washington University in St. Louis

D. Aztec Indian Music and Culture in the Elementary School: Rationale, Method . . . . . . . 88
Linda Boyer Johnson, Washington University in St. Louis

E. A Comparison of Elementary General Music Education Practices and Rationale for the Inclusion of Musical Variety in Aesthetic Education toward Broadening Musical Taste . . . . . 89
Michael Benjamin Roberts, Washington University in St. Louis

F. Non-Participation of Freshmen and Senior Boys in High School Choirs . . . . . . . . . . 91
Barbara J. Kourajian, University of Missouri-Kansas City

G. A Pilot Study Comparing Group and Individualized Instruction for Training of Vocal Pitch Matching Accuracy . . . . . . . . 92
Ellen K. Marx, University of Missouri-Kansas City

H. A Study of Selected Cultural, Sociological, and Psychological Factors in the Music Education of Mexican-American Children . . . . . . . . . . . . . 94
Douglas Edward Schoen, Washington University in St. Louis

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IN MUSIC EDUCATION

Editor: Jack R. Stephenson
Conservatory of Music
University of Missouri-Kansas City
Kansas City, Missouri 64110
Telephone: 816-363-4300

Editorial Committee:

Tilford Brooks
Department of Music
Washington University
St. Louis, Missouri 63130
Telephone: 314-889-5581

June Jetter
Conservatory of Music
University of Missouri-Kansas City
Kansas City, Missouri 64110
Telephone: 816-363-4300

Frank Koch
Department of Music
Central Missouri State University
Warrensburg, Missouri 64093
Telephone: 816-429-4530

F. Bion McCurry
2548 Sunset Terrace
Springfield, Missouri 65804
Telephone: 417-883-3297

James Middleton
Department of Music
University of Missouri-Columbia
Columbia, Missouri 65201
Telephone: 314-882-3238

Douglas Turpin
Director of Music
Parkway Public Schools
465 Northwoods Mill Road
St. Louis, Missouri 63017
Telephone: 314-851-8100

Fred Willman
Department of Music
University of Missouri-St. Louis
8001 Natural Bridge Road
St. Louis, Missouri 63121
Telephone: 314-553-5980

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## PREFACE

The Missouri Journal of Research in Music Education, published by the Missouri Music Educators Association, is devoted to the needs and interests of teachers of music in Missouri and the nation. This issue, Volume IV, Number 5, is the twentieth.

The members of the editorial committee are grateful to those readers who have written suggestions concerning the content of past issues and request that criticisms and suggestions again be sent to the editor concerning the content of this issue. We strive for a reasonable balance among music theory, history, philosophy, aesthetics, and pedagogy.

We express our deep gratitude to the Missouri Music Educators Association for their financial support to make it possible to continue to publish the Missouri Journal of Research in Music Education.

The Editorial Board

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# A SURVEY OF THE EVOLUTION AND DEVELOPMENT OF THE HORN STYLE*

Edward J. Bostley
The University of North Carolina at Chapel Hill

Since the middle of the seventeenth century, when the ancestor of the modern horn first emerged in France as part of the hunt, significant developments in performance technique and horn style have occurred with regularity in the unique evolution of this instrument. Count Spork introduced the hunting-horn into Bohemia in 1680. It gained acceptance as a concert instrument by the first decade of the eighteenth century while remaining a cor-de-chasse in France well into the new century.

With the development of the hand-horn, circa 1750, the instrument gained in technical and expressive potential. The 1780's witnessed the rise and proliferation of the great soloists of the instrument with the concertos of Mozart as the most enduring solo literature for the horn. Although the horn was a regular member of the orchestra throughout the eighteenth century, it was in the music of Beethoven, during the first decade of the nineteenth century, that its significance and expressive power as an orchestral instrument began to emerge.

By the second decade of the nineteenth century valves were added to the natural horn. Ironically, both performers and composers ignored this important invention and continued to treat the instrument as a natural horn throughout the greater part of the nineteenth century, even though in the 1850's Wagner and other composers were beginning to force the adoption of the three-valve horn. Toward the end of the century the traditional performance technique of the long established hand-horn had been abandoned, but not necessarily the musical style of the natural instrument. During the era of 1880-1910, the music of Strauss, Mahler, and their contemporaries forced a change not only in performance technique but also on the function and style of the horn in the orchestra.

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* Based on Edward J. Bostley's doctoral dissertation at the University of Missouri-Kansas City.

Throughout the twentieth century the music for horn greatly increased in difficulty both from a technical standpoint of performance and as a function within the orchestral ensemble. Atonality placed new demands on the performer in the second quarter of the century. Since the 1950's unusual extra-musical techniques have been added to the horn repertoire. In spite of the many changes that have occurred during this long development, the original influence of the hunt and the hunting-horn music has remained in evidence albeit of a somewhat ambiguous nature in much of the contemporary music.

## The Hunting-Horn Era and the Rise of the Orchestral Horn

Since the emergence of the horn in the mid-seventeenth century as an instrument of the hunt, and throughout its unique history, the evolution of a musical style and the development of a performance technique were directly subject to the limitations of the instrument and to the limitations of the performer. A long coil of tubing with fixed length, the early cor-de-chasse was capable of producing only specific notes found in the overtone series in which it was pitched. Thus an instrument of the required length to produce the fundamental pitch of C would provide the performer with the series of pitches shown in Figure 1 (Note 1).

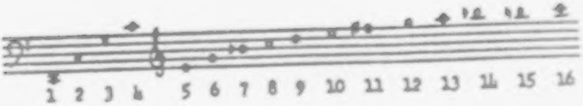

Figure 1. Pitches available to the cor-de-chasse.

The music for the early instrument was primarily comprised of signals and calls signifying different aspects of the progress of the hunt. Although each signal was necessarily unique, the hunting-horn style maintained a distinctly uniform nature typified by the predominance of 6/8 meter and triple rhythm as well as the arpeggiated melodic contour and the uniquely distinctive harmonic progression of "horn-fifths." Limited to the few available pitches of the overtone series, these horn-fifths resulted when two horns simultaneously produced the melodic progressions of *c*'', *d*'', and *e*'' in the upper horn part, and *e*', *g*', and *c*'' in the lower horn part. Other limitations of the style of the early horn music were the performance difficulties encountered by blowing on an instrument while actually engaged in the rigors of riding the hunt. In addition, extant instruments dating from the late seventeenth century indicate a certain crudeness of craftmanship of both mouthpiece and instrument. It is understandable that the performance range was limited to the more comfortable area of *c*' and *g*'', and the music remained simple.

Yet in its simplicity, the music was unique and evocative, and as the popularity of the hunt increased, the various estates took pride in the quality and elaborateness of the local hunting forays. The horn music of the hunt was as important as any other aspect of the hunt, and as such became a subject of comparative scrutiny from one livery to another. By the end of the seventeenth century the nature of horn playing, while still mainly relegated to the hunt, began to acquire a certain degree of refinement. In 1680 the aristocrat Count Spork imported a pair of hunting-horns to his estate in Bohemia, and had two members of his livery trained to play the instruments. The degree of eventual refinement was such that various courts of the aristocracy modeled their own hunting pageantry after Count Spork's elaborate hunt, and "his Jagerchor, through its legendary perfection, stimulated the development of the German hunting-song epitomized in the 'Hunting Chorus' of Weber's Der Freischutz" (Fitzpatrick, 1970, p. 12).

From these primitive beginnings evolved the style of horn playing that has had such a lasting influence on horn music and performance for nearly three centuries. It was only natural that such a strong development of the hunting-horn style should pervade music of the concert hall. Early use of the horns in concert music was of an evocative nature evidenced by the inclusion of hunting motives in operas. Such an instance may be found as early as 1639 in the opera Le Nozze di Teti e di peleo of Cavalli.

One of the earliest uses of horns in the eighteenth century opera orchestra is found in Octavia of Reinhard Keiser of 1705, and clearly illustrates the stylized hunting motives utilized in the opera, including the use of horn-fifths. Many of Keiser's horn passages foreshadowed Handel's treatment of the horns while Keiser's manner of combining hunting motives with florid figures is similar to the later baroque clarino style typical of Bach's writing for horns.

The emerging orchestral horn style of the early eighteenth century was as much dependent on the development and quality of horn performance as on any other aspect of horn tradition. Horn performance was, in turn, greatly encouraged and enhanced through the improvement of the instrument itself. The first Viennese horn-makers, Johannes and Michael Leichnambschneider, transformed the blatant cor-de-chasse of the field to the dark, warm toned Austrian Waldhorn which became the first orchestral horn. It was this instrument that was first fitted with removable crooks establishing the keys of E-flat and F as the standard length for the horn.

The demand by the musicians of this area for quality instruments reflects the desire for better instruments so better performance could result. No longer a crude instrument of the hunt the orchestral instrument of the Leichnambschneiders still retained the characteristic shape of the French cor-de-chasse, but it had acquired a darker and softer tone quality that had quickly become the hallmark of the concert horn in contrast to the brilliant tone of the out-of-doors, military instrument of the hunt. In addition to the refinement in tone quality, the use of crooks to alter the length of the instrument provided the performer more precise intonation and presumably greater accuracy of tone placement as well. These refinements in the instrument allowed the horn to become a suitable instrument for indoor use and capable of a more successful blend with the other instruments of the ensemble. Thus a style of performance technique was retained and at once refined.

Once the horn became an accepted instrument for inclusion in musical ensembles, composers began to exploit further the potential of the instrument. Even as the hunting-horn character was retained, expansion of the range to include the diatonic possibilities of the higher register was incorporated into the horn style. Bach's Brandenburg Concerto No. 1 illustrates the amalgamation of the early hunting-horn nature with the development of the florid clarino figures which became the recognized trumpet/horn style of playing during the baroque era. The first illustration in Figure 2 shows the relationship of the opening measures of this work with the hunting-horn repertoire. The work actually begins with a "greeting-call" which Bach quickly transforms into the florid clarino style. Composers of this era did not

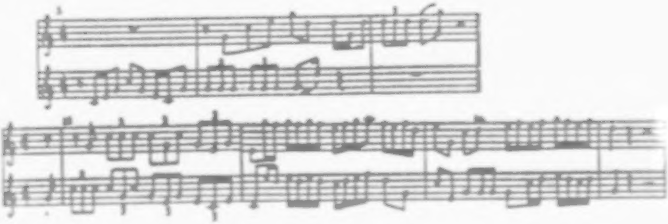

Figure 2. Johann Sebastian Bach, Brandenburg Concerto No. 1, First Movement.

hesitate to extend the range to the top of the horn's register through florid passages and octave leaps often requiring the horn player to ascend well beyond the sixteenth partial. The accessibility of partials available for diatonic performance in the extreme high tessitura of the horn naturally encouraged composers to utilize this register more frequently. The large body of music extant from this era not only indicates the nature and proliferation of brass music written in the extreme tessitura as the prevailing brass baroque style, but is a tribute to the high degree of virtuosity generally prevalent during the greater part of the eighteenth century. The clarino style tends to be viewed as an indigenous nature of the baroque horn, but it must be remembered that what may be considered natural and idiomatic for the instrument should not be the basis for a comparable assumption of what is natural for the performer. The music written for the baroque clarino style of horn playing was extremely demanding on the performer, and in point of fact, the high tessitura was employed with specific performers in mind (Fitzpatrick, 1970, p. 66).

Although the hornist was required to ascend to the top of his range in the *Brandenburg Concerto No. 1*, it is worth considering that extended playing in the extreme area of the third octave (*g''* to *c'''*) comprised a frequency of 26% of all horn appearances in the first and third movements, and 12% in the Trio II of the Minuet (Bostley, 1980, pp. 148-157). With the horn parts descending only twice below *c'* in the entire work, the majority of the horn playing was confined to the middle range of approximately *c'* to *f''*. The emerging horn style, that was more and more influenced by the refined and darker tone quality of the improved horns of the Leichnambschneiders, favored the tone of the notes that fell into the middle range. This darker, mellower tone, which was unique to the horn, was the hallmark of the instrument by the end of the eighteenth century, becoming the most influential aspect of horn style, while performance practice superseded considerations of range and technique.

Such a dark and mellow tone had a tendency to blend easily with the other instruments of the ensemble, and it is understandable how the middle register, which most successfully supported this ideal tone, would be favored by both composers and performers. Ironically, in the rich polyphonic texture of the baroque, a tone that blended too well could cause a loss of clarity within a thickly textured composition. In addition, instrumental identity tends to be absorbed in the texture as well. Selection of registers necessitated more consideration than merely virtuosic concerns. In an unencumbered composition with transparent texture the dark, sonorous tone of the horn in the middle register would be discernible, but as the texture thickened, the high register would provide a better opportunity for the penetration of the horn timbre. Thus the variety of tone color, resulting from the wide range of the instrument, expanded the style of the horn to make it a most versatile instrument during the second quarter of the eighteenth century.

## The Emergence of the Romantic Horn

In the second half of the eighteenth century the development of the "romantic" horn tone and style moved away from that of the "baroque-style," and with the discovery of hand-stopping at mid-century, the course of the horn style and performance technique was greatly altered. Although the process of inserting the right hand into the bell was intended primarily to increase the technical potential of the instrument, the softer, darker tone quality that resulted became immediately prized. This concept of tone remains intact in horn performance technique today, although the use of hand-stopping tends to be limited to muting effects.

Anton Joseph Hampl has been credited with the development of the hand-horn technique that revolutionized the technique and subsequent style of horn playing prevalent in the latter part of the eighteenth century. The technique requires the insertion of the right hand into the bell of the instrument in such a manner as to conveniently alter the open pitches (natural pitches of the overtone series) of the horn to permit a chromatic scale to be played. This revolutionary discovery of hand-stopping also brought about, at one stroke, many significant corollary results. Besides the important potential of diatonic performance throughout the entire range of the instrument, the tone quality was immediately altered and enhanced because the placement of the hand in the bell became standard practice. This new hand position required the lowering of the instrument to the knee, and the resulting new posture helped to absorb some of the brilliant high overtone partials while allowing more of the dark lower partials to project. With the diatonic potential realized in the middle register, the extreme high tessitura was no longer necessary, thus removing the need for excessive mouthpiece pressure. This permitted a change in embouchure (more upper lip on the mouthpiece) which also contributed to a more desirable tone quality. With this embouchure change, performers also adopted the thin rimmed, deep funnel mouthpiece. As a consequence, middle and low register horn playing became more prized. This turn of events resulted in two styles of horn-playing; the retention of the high-horn clarino specialist (cor-alt) of the baroque era, and the low hand-horn specialist (cor-basso) of the emerging classical era. Ironically it was the cor-basso specialist,

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having gradually absorbed both styles of playing specialities in becoming a "cor-mixed" specialist, who eventually became the widely acclaimed virtuoso soloist by the 1780's.

The acceptance of the hand-horn style marked the beginning of the demise of clarino playing. Certain aspects of the clarino style were retained because of the inherent nature of the natural horn as well as the needs of the evolving orchestral style. Many horn passages in the symphonies of Stamitz demonstrate the retention of the extreme high tessitura, but the florid style has given way to the more austere scalar manner of horn playing that developed during the Mannheim era. Horn players were still required to ascend into the fourth octave, and wide interval leaps into the extreme range characterized both the baroque and early classical orchestral horn writing. The second horn, although not required to ascend into the extreme high register on any regular basis, had to negotiate wide intervals in excess of the octave. These wide skips, requiring immediate change from one register to another, became a trademark of second horn writing and an exhibition of virtuosity in the horn concertos during the latter part of the eighteenth century.

It was during the second half of the eighteenth century that the great horn-players gained prominence for their art through the ability to perform accurately throughout the entire range of the instrument, especially in the middle and lower registers. Throughout the remainder of the century and into the first decade of the nineteenth century, horn-playing and horn-players realized greater attainments and recognition for their performance than had been possible prior to this period. Although orchestral horn passages provided only occasional opportunities for the virtuoso potentials of these great horn performers, it was the solo literature, the many concertos composed and performed during this era, that established the fame and credibility of the horn as an important artistic instrument.

Unlike the generally demanding and virtuoso level of orchestral horn writing of the baroque, the orchestral passages of the classical composers tended to be bland and not nearly as challenging. Rhythmic accentuation, sustained harmonic accompaniment, and melodic reinforcement characterized the role of the horn in the orchestral works of Haydn and Mozart.

By contrast, the horn concertos of this same era provided the performers the opportunity to display the virtuosity for which they had become widely acclaimed. Many of the techniques of horn writing during the baroque era had an obvious influence on the horn concertos of the late eighteenth century. The florid style, lacking in the orchestral horn parts, was retained in the concerto, frequently occurring in the middle as well as high register.

The popularization and elevation of the horn to an accepted artistic level was not based exclusively on the technical prowess displayed by performer on the fast, florid sections of the horn concertos. Indeed, one of the most important aspects of the horn's popularity, its tone quality, was best displayed in the slow, lyrical movements. The ability of a performer to deliver a slow, smooth, expressive passage on the horn with convincing mixing and blending of the open and closed notes of the middle range was held in as high esteem as any other aspect of performance. Such testimonials as ". . . it is the Parisian critic's comment on Leutgeb's ability to sing an adagio 'as perfectly as the most mellow, interesting, and accurate voice'," (Fitzpatrick, 1970, p. 164), and the following concerning a concert by Giovanni Punto, perhaps the finest practitioner of the art of horn-playing to emerge during this era, ". . . Even the most respected connoisseurs were forced to admit . . . His delivery on this normally difficult instrument was pure song . . ." (Fitzpatrick, 1970, p. 184) supports the importance subscribed to the lyrical nature of the horn. Thus, by the end of the eighteenth century, the ability of the many horn virtuosos of the era, and the extant music composed for the instrument, points to a very complete range of musicianship, all the more remarkable in considering that the instrument still retained the same physical limitations as its predecessor of one hundred years.

Although the right-hand technique seemed to be reserved for the soloist rather than the orchestral horn-player, stopped passages did occur in the orchestral literature of Haydn and Mozart, but "The majority of Mozart's orchestral horn parts . . . are clearly intended for the run-of-the-mill orchestral horn-players of the day; and considering the degree to which hand-stopping had by this stage been developed by the soloists, were remarkably conservative" (Fitzpatrick, 1970, p. 184). The orchestral horn style, therefore, by the end of the eighteenth century, assumed a less dramatic role than in the baroque orchestra, but this was necessitated not just because of the limitations of the instrument, which seemed to be overcome by the virtuosic abilities of the performers, but the subjugation of the horn to the requirements of the classical style of orchestral music.

The horn style found in the orchestral music of the early nineteenth century though, gradually became more influenced by the highly developed hand-horn style of the previous century, but with certain modifications. It was not virtuoso music (indeed the era of the famous horn virtuosos gradually faded by the second quarter of the new century, yet the basic elements of artistically blending open tones with the muffled stopped notes was increasingly part of the orchestral horn-playing technique. The famous Scherzo of Beethoven's Eroica Symphony, with the hunting-horn trio, requires the minimum of hand-stopping, a technique which, in this instance, is not of virtuosic demand. The last movement, on the other hand, requires unison horns to deliver a forceful, heroic statement (Figure 3) that involves many chromatic and diatonic progressions necessitating a precise hand-stopping technique for effective and accurate results. There are other examples of the need for hand-stopping in important horn passages throughout the orchestral works of Beethoven, especially the famous fourth horn passages in the Ninth Symphony (the third movement in particular).

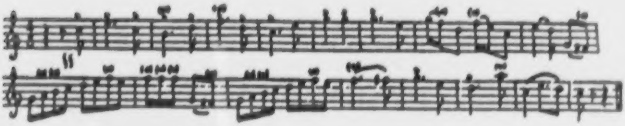

Figure 3. Beethoven, Symphony No. 3. "Eroica." Fourth Movement, measures 380-396.

Likewise the high tessitura (g'' to c''') was not called upon with regularity. In fact, Beethoven requires the horns to perform in the high register (g'' and above) for only 1% of their appearances throughout the nine symphonies, although 52% of these high occurrences are of a solo or prominent nature. Thus, by the first quarter of the nineteenth century, the orchestral horn-player was accustomed to a horn style that emphasized the unique sonorities of the horn and the most resonant registers of the instrument.

With this horn style development it seems only natural that the instrument gained more prominence as a solo instrument in the orchestra. This is noticeable in comparing the use of the horns in the later symphonies of Mozart with the use of horns in Beethoven's symphonies. Both tended to utilize the horns with about the same frequency (the G minor Symphony of Mozart requires the horns to perform 51% of the time while 47% is required in the Eroica Symphony), but the significant difference is in the prominence of the horn passages appearing in both works. Mozart saw fit to give the horns only 3% of solo or prominent exposure with the majority of playing as merely "filler-parts" and accompanying. Beethoven, on the other hand, favored the horns with 23% appearance in a solo or prominent manner.

Just as the horn style seemed settled by the first quarter of the new century, another development was added to the horn's technique--a development destined to be even more influential than the hand-stopping technique of the previous century but slower to be accepted by the performers and composers of the new century. During the second decade of the nineteenth century the valve system was developed and added to the natural horn. At first glance, at least in the perspective of today's musicians with an exclusive tradition of playing on the standard three-valve instrument, this invention would have been the solution to completely perfecting the very limited instrument that had been used for so long. The hand-stopping device provided the performers the ability to extract from their instruments lyrical, diatonic melodies, but with obvious limitations. Certainly the ability to immediately absorb the chromatic advantages enjoyed by the other instruments would have been as welcomed as the advantages discovered with hand-stopping. In addition, the valves provided the advantage over hand-stopping of a more uniform tone production as opposed to the change from open to muffled tones necessitated on the natural horn. Yet, performers and composers alike remained adamant in their reluctance to accept the valve instrument or tamper with the horn style so carefully developed throughout the previous century. In fact, the prevailing "romatic-heroic" style of the natural horn was carefully maintained in the orchestral horn parts of the romantic era composers even as the valves were grudgingly adopted by the performers by the latter part of the nineteenth century.

To the contemporary musician this may seem iconoclastic in a strict sense of tradition, but it must be remembered that hand-stopping provided more than just the ability to perform diatonically throughout the entire range of the instrument. It was the enhancement of tone with a dark, veiled romantic quality that resulted from the hand in the bell and which had come to characterize the horn idiom that performers and composers were determined to preserve. Furthermore, the subtle change of color effected by moving from a muffled tone to an open tone provided a sense of expression not possible with the valve instrument even though the hand was retained in the bell.

Thus, the addition of valves to the horn was not treated as a means of creating a chromatic instrument, but rather as a convenient means to eliminate the necessity of changing crooks to correspond to the key of the music. At first, two valves were added to the instrument. The second valve placed the F horn in E, the first valve provided tubing sufficient to play the natural horn in E-flat, and the combination of the two valves provided a natural horn in D, the four favored and standard keys for the horn. Once a valve was used to establish the proper length of tubing for the appropriate key, the horn was played as a hand-horn, and apparently no consideration was given to the potential of changing valves to provide chromatic, or even diatonic progressions which would eliminate the closed, or muffled tones. This was, in fact, not necessary because the composers continually treated the horn as a natural horn and utilized the open pitches of the overtone series more often than the closed pitches. When resorting to the closed pitches, they generally used the more practical pitches to minimize extreme tone contrast.

Because of the concern for the major advantage of the natural horn, i.e., its tone quality, (the strong tradition that was brought to its peak during the first two decades of the nineteenth century), the performers and composers were reluctant to abandon such a tradition. Brahms, who had played the natural horn in his youth, continued to treat the valve-horn as a natural horn as late as 1880, although it appears that in his later works he did use the valve-horn even though he maintained the earlier traditional style. This trend appears to be true in most of the composers of the late nineteenth century.

## The Modern Horn

It was during the era of 1880-1910 that the valve-horn, hitherto treated as a hand-horn, emerged as the modern chromatic instrument still in use today. In view of the famous intricate and demanding passages for horn found in the music of Strauss and Mahler, it may appear that the transformation in the nature and function of the instrument was somewhat abrupt. Yet it was a gradual change that evolved from the mid-century. Robert Schumann's two solo works for the horn of the 1850's, the Adagio and Allegro, and the Concert Piece for Four Horns, both required the use of the valve-horn. Even as composers continued to emulate the hand-horn style, their orchestral music began to require the use of valve-instruments. The famous "Seigfried Horn Call" performed off-stage, from the Ring of the Nibelung of Richard Wagner, which is intended to sound like a natural horn in the distance,

> . . . is a passage that demands the valves for its rapid and smooth delivery. And as a matter of fact no player in his senses would dream of playing it on a valve-less instrument. In short it is a happy instance of a valve-horn passage preserving almost intact all the characteristic features of the old hand-horn music. (Forsyth, 1935, p. 128)

In the introductory notes to the score of Tristan and Isolde of 1859, Richard Wagner recognized the controversy surrounding the adoption of the valve-horn by orchestral performers, but he strongly encouraged the use of the new horn with the admonition "that capable artists can, by specially careful management" (Blanford, 1922, p. 694) overcome the disadvantages of tone inherent on the valve-horn. He continued to instruct horn-players to study the horn passages of the opera carefully to insure faithful execution of the stopped notes as indicated in the score. Wagner accurately predicted the inevitable refinements that would soon become a part of the horn-players technique. Even though Strauss admitted that the tone of the valve-horn was inferior to the tone quality of the natural horn, the advantages of the valve-horn were recognized. Mechanical improvements were encouraged, even demanded. Richard Strauss, commenting on the advanced state of the art of orchestration by the turn of the twentieth century, wrote in 1904:

> The practical instrumentalist, through his skill, stimulates the composer to new ideas. Great ideas, on the other hand, which at first do not seem feasible, gradually lift the ambitious instrumentalist to their level. They have the greatest influence on progress in the construction of instruments, on improvements in their technique, and on the enrichment of the expressive possibilities. (Berlioz, 1948, p. 1)

Certainly the horn music of the late nineteenth century (at times reminiscent of an earlier tradition) was impractical if not altogether impossible to perform on anything but a valve-horn. The composers at the forefront of contemporary music during this era, especially Strauss and Mahler, did use the horn as a chromatic instrument. Because of the continually expanding size of the orchestra as well as the changing nature of orchestral music, the new and increased demands resulted in adoption of the modern valve-horn. The unusual demands Mahler placed on the instrument were a result of his combining the virtuoso aspects of both the baroque and classic styles of playing within his symphonic framework. Mahler provides many instances of high florid passages for the entire horn section that rival the most intricate clarino passages to appear in a baroque orchestral work, although Mahler does not extend the range beyond c'''. Likewise, Mahler provides many examples of long lyrical solos that typify the lyric adagios of the classical horn concertos held in such high esteem in the eighteenth century. That he was aware of the difficulty of his horn parts is revealed in his own words:

> The individual parts [Fifth Symphony] are so difficult to play that they all really need soloists. Some pretty bold passages and figures escaped me here, just because I do know the orchestra and its instruments so well. (Blaukupf, 1973, p. 183)

He even felt the need to "take his trusted first-horn player with him to assure the transcendentally difficult passages he had allotted that instrument [Sixth Symphony] an adequate performance" (Engel, 1970, p. 114).

The horn playing in the first decade of the twentieth century was not the culmination of the art and technique of the instrument, but the emergence of the modern horn. In the first decade Schoenberg added new demands to horn playing, not only in technically difficult passages, but also by their inclusion within the spectrum of his experimentation with atonality. Although his Chamber Symphony No. 1 of 1906 is basically tonal, the first passage for the horn is a quartal melodic ascent to the high b-flat''. Horn-players had been quite used to delivering triadic and scalar flourishes into the high range, a practice well engrained in the horn-

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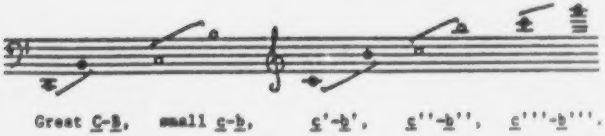
players' psyche through two hundred years of tradition. With the gradual demise of the familiar traditional harmonic concepts of tonality, performance security was greatly affected. Twelve-tone and other serial music provided performers with new technical problems that could only be overcome by developing a familiarity and comprehension of the new abstract musical vocabulary.

More recently horn-players have been faced with new technical demands. "Vocalizing" into the horn is not new; horn-players of the eighteenth century performed so-called "double-stops" or "horn-chords" (Weber's Concertino in E for horn requires production of chords on the horn) by simultaneously buzzing a tone in the normal manner and humming another pitch in the overtone series. Contemporary composers, though, require a variety of vocalizing techniques that approximate conversations and other vocal expressions in the instrument. Buzzing non-determined pitches on the mouthpiece alone, or placing the mouthpiece into other tubing of the horn, the use of half-depressed valves, and finger tapping on the horn bell or mute, are just a few other examples of new horn techniques in recent avant-garde music.

To what extent any of these new devices will become enduring aspects of the continually evolving horn tradition must be left to speculation, but any innovations that tamper with tradition have always been open to challenge and criticism. The use of horn-chords in the eighteenth century was considered "worthy only of charlatans" (Morley-Pegge, 1960, p. 147). Even the addition of valves was resisted for the greater part of the nineteenth century. Innovations aside, the most enduring aspect of the horn tradition, the uniquely inherent, expressive tone quality best revealed in the lyrical song-like melodies, promises to remain a dominant influence on performers, composers, and audiences well into the future.

## Reference notes

1. The following system of identifying registers and individual notes which fall within the register, will be utilized throughout the article and will identify the pitches as they appear on the staff regardless of the pitch of the instrument sounding the note.



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# THE EFFECT OF APPROVAL, DISAPPROVAL, AND TEACHER ERROR ON CLASSROOM ATTENTIVENESS: HIGH SCHOOL BAND VERSUS HIGH SCHOOL CHORUS*

Denise E. Moyer
Shawnee Mission, Kansas, Public Schools

Attending behavior has been proven as a prerequisite to all learning by Krathwohl, Bloom, and Masia (1964, pp. 98-99); Engelmann, and Thomas (1975, p. 33); and others. If the student is not attending to instruction, how can he learn and participate in class? The instructor is responsible for getting and keeping the attention of the students, and demanding that no other behavior occur. How is this achieved?

Kuhn (1972, p. 8) and Murray (1972, pp. 2-8) and other music educators stress the value of positive reinforcement and its effect on classroom attentiveness. However, results from studies give conflicting evidence.

Madsen, Wolfe, and Madsen (1969, pp. 22-34) claim in their study that there was a significant improvement ($p < .01$) in intonation of scales sung by students receiving positive reinforcement. They also report a significant improvement ($p < .01$) in intonation of scales sung by students receiving no positive reinforcement.

Greer, Randall, and Timberlake (1971, pp. 10-18); Jorgenson (1971, pp. 134-145); and others have found that music itself may be used as positive reinforcement for appropriate behavior.

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* Based on Denise E. Moyer's master's thesis at The University of Missouri-Kansas City.

Forsythe (1975, pp. 49-55) found the attending behavior of students in elementary music classrooms greater than the attending behavior of the same students in their regular elementary classes. Forsythe speculated that the subject matter may have been more reinforcing.

Moffat (1969, pp. 34-44) found a difference in responses to two contrasting styles in music, and speculated that some types of music may be more reinforcing than others. If a director of a high school band or chorus is not giving reinforcement, and students are attending anyway, it would tend to support Moffat's conjecture that it is the music itself that is reinforcing. Are there differences in attentiveness relating to the performance medium and its literature? It may be that the music in band or the music in chorus may act as a reinforcer.

## The Problem

Is the degree of attentiveness of members of a high school band greater than the attentiveness of members of a high school chorus, regardless of the amount of positive reinforcement, negative reinforcement, and approval or disapproval error provided by the ensemble director?

## The Purpose

The purpose of this investigation is to compare the attentiveness of high school band students in three Kansas City Metropolitan area schools with the attentiveness of high school choral students in the same schools on three observable occasions.

## The Definitions

1. On-Task Behavior or Attentiveness (Active) is defined in this study as the amount of time the student is supposed to be singing or playing and looking at either the music or the conductor and is doing so.

2. On-Task Behavior or Attentiveness (Passive) is defined in this study as the amount of time the student is not supposed to be singing or playing, but is quiet and looking at either the music, the conductor, or the section members who are singing or playing.

3. Off-Task Behavior is defined in this study as the amount of time the student is supposed to be singing or playing and looking at either the music or the conductor and is not doing so. Off-Task Behavior may also be defined as the amount of time the student is not supposed to be singing or playing, but should be quiet and looking at either the music, the conductor, or the section members who are singing or playing, and is not doing so.

## Method

A descriptive design was used for this study. The sample consisted of members of three high school choruses (one band and one chorus from each school) in three class 4A high schools in the Kansas City Metropolitan area in Missouri.

Three trained observers participated in this experiment. The usual format was not altered in any way by the observers and the approval/disapproval ratios given by the directors were not predetermined or manipulated. The directors did not know the specific behavior being measured until the end of the observational period.

The observation form used in this study was one similar to those used by Murray, Kuhn, and Forsythe (1972, pp. 51-52) modified for use with band and chorus. The observational form was designed so it could be used by all the observers, as well as for summarizing the data after the observation. The decision to use a fifteen-second observe/five-second record interval was based on results obtained during the observer training period. Using that interval each line of the observation represented ten minutes, forty seconds when completed. Two forms were used for each class period being observed, so a total of twenty minutes, eighty seconds was observed. The observers did not begin until approximately ten minutes had passed in each class, to give the students some time to become accustomed to the observer's presence. A prerecorded cassette tape transmitted through earphones provided a verbal cue for the observers. A voice on the tape said "observe," then there was a fifteen-second pause, then the voice said "record," then a five-second pause, then "observe," etc. During the five-second interval, observers recorded the behaviors that had occurred during the previous fifteen-second observation interval.

During the experiment two trained observers recorded overt student off-task behavior. The observers sat behind and to the right of the director. During the first observational interval, on each line of the observation form, "Observe 1," the observers scanned a particular section of the chorus or band. During the first record interval, the observers recorded the number of students in the section off-task, "Record 2." The same procedure was employed across the other sections so that each of four sections; soprano, alto, tenor and bass, in chorus; and high woodwind, low woodwind, brass, and percussion, in band, was observed for one fifteen-second interval. Each line was one minute, twenty seconds of observation and record. After waiting five minutes, using a second identical form, the observation was repeated. A total of twenty minutes, eighty seconds of time was observed and recorded in each observational setting.

In recording teacher responses during the experiment, one observer sat at the back of the rehearsal room. During each record interval, the teacher responses that occurred during the previous observation interval were recorded. The teacher response recording was carried out at the same time as the observation of student behavior, and the teacher observer heard the same recording instructions on the headphones as the other two observers.

## Results

Scores from observer records were tallied on summary sheets before data were analyzed. Data were analyzed by ANOVA (Wright, 1976, pp. 383-383), Pearson product-moment correlation (Spence, Underwood, Duncan & Cotton, 1968, p. 121), t-test (Guilford & Fruchter), and Multiple Regression (Snedecor & Cochran, 1967, pp. 381-418).

A one-way analysis of variance indicated no significant difference (.05 level) in the amount of positive reinforcement provided by the ensemble director of high school band and of high school chorus, $F = 2.00$ (1,45), $p < .05$. The amount in each case was quite low.

An analysis of variance with interaction for off-task by band and chorus indicated a significant difference (.05 level) in the percent of off-task behavior for high school band members and high school choral members, $F = 13.60$ (1,95), $p < .05$. There was greater off-task in chorus.

A one-way analysis of variance indicated a significant difference (.05 level) in the amount of negative reinforcement provided by the high school band directors and high school choral directors, $F = 18.89$ (1,45), $p < .05$. More disapproval was provided by the high school choral directors.

A one-way analysis of variance with interaction for disapproval and approval error by group indicated a significant interaction in the number of disapproval/approval errors for high school band directors and high school choral directors, $F = 5.71$ (1,93), $p < .05$. Main effects were not significant. More approval error was provided by high school choral directors, while more disapproval error was provided by high school band directors.

A multiple regression analysis indicated no significant difference (.05 level) between the amount of positive and negative reinforcement and attentiveness of the students. There was no significant relationship between observed disapproval, approval and number of off-task incidents in the sample. Regression effect of disapproval was practically nil.

## Conclusions

Subject to the circumstances and limitations of this study, the following conclusions were drawn. The amount of positive reinforcement provided by the ensemble director did not differ significantly between high school band and high school chorus. The amount of approval provided in both ensembles was moderately low.

In this study there was a significant difference ($p < .05$) in evidence of off-task behavior. Choral students were observed more often off-task than band students. It appears then, that approval was not related to attentiveness.

This study indicates no significant interaction between the amount of positive and negative reinforcement and attentiveness of the students. This finding would tend to support the speculation of Forsythe (1975, pp. 49-55), that the music itself may be more reinforcing. If there is no significant relationship between the amount of positive and negative reinforcement provided by the ensemble director, and students are attending anyway, it would appear that the ensemble medium may be more reinforcing.

From the data generated in this investigation, it was concluded that if more disapproval than approval is provided by the ensemble director, the students may be observed off-task more often as a means of getting teacher attention. When there is a greater number of students off-task, the ensemble director may tend to give more disapproval rather than providing approval for the students that are on-task or attending. However, there was no significant relationship found in this study between approval, disapproval, and their effect on attentiveness. This again tends to support the conjecture of Forsythe (1975, pp. 49-55), that the music itself may be more reinforcing regardless of approval or disapproval provided by the teacher.

Results from this study indicate that the degree of attentiveness of members of a high school band is greater than the attentiveness of members of a high school chorus, regardless of the amount of positive reinforcement, negative reinforcement, and approval or disapproval error provided by the ensemble director.

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REHEARSAL OBSERVATION FORM:

STUDENT ACTIVITY: STUDENT ON/OFF TASK, TEACHER RESPONSE

INTERVALS

| Line | # of SS | OBSERVE 1 | RECORD 2 | OBSERVE 3 | RECORD 4 | OBSERVE 5 | RECORD 6 | OBSERVE 7 | RECORD 8 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P |
| 2 | | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P |
| 3 | | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P |
| 4 | | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P |
| 5 | | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P |
| 6 | | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P |
| 7 | | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P |
| 8 | | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P | | N P 1 2 3 4<br>A D I<br>Ⓐ Ⓓ P |

## EXPLANATION OF REHEARSAL OBSERVATION FORM

| Student Activity | |
|---|---|
| Teacher Responses | # of Students off-task |

=

| N | P 1 2 3 4 |
|---|---|
| A D I<br>ⒶⒹ P | |

### STUDENT ACTIVITY

N = Nonperformance

P = Performance

| | BAND | | CHORUS |
|---|---|---|---|
| 1 = | High Woodwind Section | = | Soprano Section |
| 2 = | Low Woodwind Section | = | Alto Section |
| 3 = | Brass Section | = | Tenor Section |
| 4 = | Percussion Section | = | Bass Section |

### TEACHER RESPONSES

A = Approval

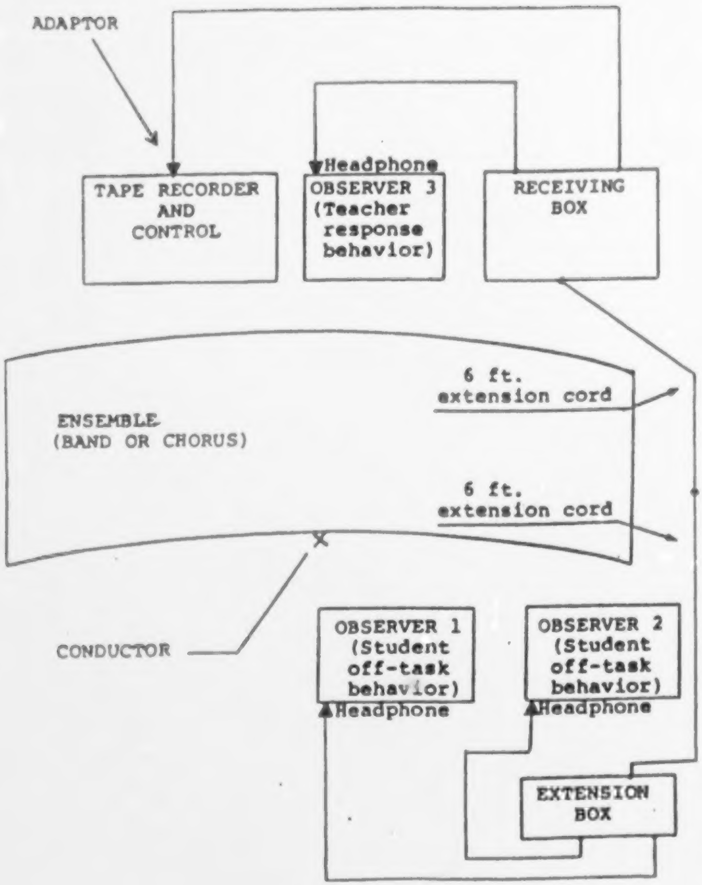
Ⓐ = Approval Error

D = Disapproval

Ⓓ = Disapproval Error

I = Instruction

P = Performing


ADAPTOR
TAPE RECORDER AND CONTROL
Headphone
OBSERVER 3 (Teacher response behavior)
RECEIVING BOX
ENSEMBLE (BAND OR CHORUS)
6 ft. extension cord
6 ft. extension cord
CONDUCTOR
OBSERVER 1 (Student off-task behavior)
Headphone
OBSERVER 2 (Student off-task behavior)
Headphone
EXTENSION BOX

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# A COMPARISON OF FREQUENCY DISCERNMENT ABILITIES

Olin G. Parker
University of Georgia

A musical stimulus consisting of two frequency components can be analyzed. The listener can hear two tones with pitches corresponding to the individual stimulus frequencies if the difference in the frequencies is not tuned small Smoorenburg, 1970). Roederer (1975) says this is due to the ability of the cochlea to extricate the frequency components from a complex vibration pattern. A single vibration pattern at the oval window gives rise to two resonance regions of the basilar membrane. If the frequency difference between the two component tones is large enough, the corresponding resonance regions then can be heard as two separate tones. Each tone oscillates with a frequency corresponding to the component tone. If the frequency difference is smaller than a certain amount (jnd or the difference limen), the resonance region overlaps and only one tone of intermediate pitch with modulated or "beating" loudness is heard. Pratt (1928) proposed that in the middle of a tonal range the difference in frequencies which will give rise to a perception of two different pitches in one-half of the total number of trials is twenty cents.

In this connection it may be said that the pitch sub-test of the well-known Seashore battery includes intervals as small as six cents. Leipp (1977) reported that 50 percent of the students in the Conservatoire de Paris were able to discriminate intervals of four cents and Rakowski (1977) observed some students at the Academy of Music in Warsaw who could discriminate intervals with two cents differential. Meyer (1978) reported similar results but cautioned that each musician's discrimination range varied according to timbres. In the foregoing, discernment of frequency differences (of the fundamentals) was better than in studies such as the present one due to the fact that musical sounds present a timbre identification element not present when the stimuli are audio generated.

Averaged over a number of trials and encompassing the frequency range utilized in orchestral music, however, the smallest difference limen (jnd) generally is reputed to be fifty cents. According to several authors (Thurlow & Bernstein, 1957, and Plomp, 1964), the auditory separation of two simultaneous frequency tones in most musical frequency ranges may be accomplished only when the interval between the simultaneous sounding frequencies is not smaller than a semitone. Lundin (1967) reports that the average person has a difference limen (jnd) of plus or minus three cycles when the reference frequency is 435 Hz. There are many reports which emphasize that individuals differ in their ability to discriminate differences in frequencies--that these limits vary considerably from individual to individual, dependent on the occasion and the frequency range (Roderer, 1975, and Radocy & Boyle, 1979).

Because trombonists must pay constant attention to pitch and deal with very small degrees of variance in pitch, it would seem that their acuity for frequency discernment within the range of a trombone will be more discriminative than the acuity of pianists, who are not required to pay constant attention to pitch and who work only with the pitch variation that occurs in the equal-tempered scale. Trombonists, however, are accustomed to a smaller range of frequencies than pianists. It would seem that pianists will have greater frequency discernment ability than trombonists at frequencies above and below the range of the trombone.

## Hypotheses

$H_0$--There is no significant difference in the reports of pianists and trombonists as to whether or not they perceived two frequencies.

$H_1$--There will be a difference in the reports of pianists and trombonists as to whether or not they perceived two frequencies.

## Method

Subjects. The sixty subjects were university students--trombonists and pianists. The criterion for the thirty trombonists was that they had registered as students in applied trombone at the University of Georgia. The criteria for the thirty pianists were that each subject had registered as a student in applied piano and that each pianist did not play any other instrument in an instrumental performing organization.

Apparatus and Utilization. Two sine wave audio generators (an RCA WA-504 A and a Hewlett Packard 3300A) were used to provide the frequency signals. A Stroboconn 645 was used to set and control the frequencies of each generator. (The signal from each generator to the Stroboconn was fed in directly instead of using its microphone.) To combine the frequencies into a single channel, each signal was fed into a Flickinger Custom Mixer at a ±3dB. To regulate and control the intensity, the output to the tape deck was controlled to be no more than a ±3dB. An additional aid in intensity control was the LED VU meter. An Ampex 351 tape deck (full track) was used to record the two frequencies and for the playing of the taped stimuli to each subject. Tape splicing equipment was used to control the duration of each tonal stimulus and each time spacing between stimuli. TDK-Audua tape was used.

To mask out unwanted noises from outside the test administration room, the taped stimuli were played using Ultralinear speakers in the four corners of the room in addition to Koss KO/747 earphones. Amplification was provided by a Harmon Kardon Citation 17 PreAmp, GAS Son of Arappilla Amplifier for the speakers, and a Rotel RA-120 amplifier for the earphones.

Procedure. Sine waves were employed for the purposes of this experiment examining the frequency discernment acuity of a group of trombonists and a group of pianists. One sine wave generator was set on a selected fixed frequency while the other generator sounded a comparison frequency which varied upward from the fixed frequency in increments of 10 cents.

Seven frequencies (chosen so as not to represent a first position in any octave for the trombonists) were selected to be the fixed frequencies in each set of stimuli. They were: 36.708($D_1$), 92.499($G_2$), 130.81($C_3$), 220.0($A_3$), 311.13($Eb_4$), 987.77($B_5$), and 2349.3($D_7$).
A total of 70 dyads of tones were produced (10 dyads at each frequency). Each stimulus was a combination of the chosen fixed frequency and a higher frequency designated randomly in the dyads, ranging from the fixed frequency to a frequency 100 cents higher, in increments of 10 cents. (See Appendix B.)

Stimuli duration was controlled by hand splicing each tonal stimulus on exactly 15 inches of tape (one second at a tape speed of 15 inches per second); each space between stimuli was spliced to 30 inches (2 seconds at 15 i.p.s.); and each space between sets of stimuli was spliced to be 60 inches (4 seconds at the tape speed used). Again, frequencies were controlled by referring to the Stroboconn at the presentation of each tonal stimulus--first setting the fixed tone, then setting the tone to be varied.

The stimuli were presented to the 60 subjects (one subject at a time) through earphones while simultaneously another amplifier fed the stimuli to the four corner speakers. After hearing the verbal instructions of the test administrator and reading the explanations and instructions on the answer sheet, each subject had two practice exercises. He was asked to write "1" or "2" in the appropriate blank after hearing each of the practice exercises, indicating whether he heard the stimuli as one pitch or two pitches. The correct answer was given and discussed after each of the practice exercises. If it appeared that the subject was not clear concerning the discernment to be made, the practice exercises were repeated and again discussed. When the test administrator was satisfied that the subject understood the procedure, the tape presenting the stimuli was put into operation and was not interrupted until all 70 stimuli had been experienced. (See Appendix A--an unused answer sheet.)

The reader will note, by referring to Appendix B, that the variances used in constructing the dyads were listed in a random fashion so that the subjects were unable to assume a predictiveness about the "next" stimulus. Also, it should be noted that the stimuli forming the basis for this investigation were pairs of tones sounded simultaneously rather than successively.

## Results

The raw data were processed with two procedures to obtain and to check $\chi^2$ (Chi-Square) values. First, the formula $\chi^2 = \frac{(0 - E)^2}{E}$ was employed, computing on the basis of the experiment being a one-sample test. $\chi^2$ was found to be .89. The tabled value of 3.84 > .89 ($P >$ .05) indicated failure to reject $H_o$.

Second, the formula

$$\chi^2 = \frac{N \quad AD - BC - \frac{N^2}{2}}{(A + B)\ (C + D)\ (A + C)\ (B + D)}$$

was employed, computing on the basis of the experiment being based on two independent samples. $\chi^2$ was found to be .59. The tabled value of 3.84 > .59 ($P >$ .05) indicated failure to reject $H_o$.

## Summary and Conclusions

The difference limen (jnd) of a group of trombonists and a group of pianists was not found to be significantly different. The group responses were very similar when measures of central tendencies (mean, medium, mode, range) and standard deviations were compared. When the formulas of computing for Chi-Square were applied, the value of $\chi^2$ indicated that no significant differences existed in these sixty subjects when they were grouped as pianists and trombonists.

Trombonists have been strongly conditioned by learning and psycho-acoustic methods during the acquisition of their kinesthetic skills, i.e., constantly adjusting pitches by movement of the slide whereas pianists have none of this. It would seem that there would be significant differences in their frequency discernment abilities. The one major factor not controlled in this experiment was the assessment of or the matching of the subjects' musical abilities or musical sensitivities. Was it that the pianists, through listening as an adjunct to their acquirement of psychomotor skills, learn pitch acuities indirectly?

Recommendations for future research should include a similar type study with the stimuli being complex tones produced by actual orchestral instruments. Heterogeneous and homogenous mixtures of timbres would be an added dimension. It is generally assumed that the complexity of tones does not interfere with the discernment of pitches because the fundamental is the listener's point of focus, and, in fact, the upper partials may play a helpful role in the discernment of frequency differences. This assumption needs to be examined. Also, might significantly divergent results be found if groupings were made according to sex, age, intelligence, or scores/classifications obtained from the subjects taking a standardized music test(s)?

It was proposed at the beginning of the foregoing experiment that, because trombonists have to pay constant attention to adjustment for pitch and that pianists do not, trombonists would have a more accurate acuity for frequency discernment. Is it possible that pianists, being involved in performing simultaneous sounding tones (whereas trombonists perform tones sequentially), have an "advantage" because of this experience?

Finally, in the process of the development of frequency acuity discernment abilities, what role does maturation play? Regardless of the instrument on which one performs, are the attained frequency discernment abilities automatic by-products of maturation?

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# APPENDIX A

Code number ______

## Frequency Discernment Test

To the best of your knowledge, do you have "normal" hearing? ___Yes ___No

(If "no," briefly describe your deficiency.________________________________________
_______________________________________________________________________________).

- - - - - - - - - - -

You will hear, at spaced intervals of one second, a sound to which you are to respond by writing 1 if you hear one pitch, and 2 if you hear two pitches simultaneously. These occur relatively fast, so make your answers quickly and be ready for the next stimuli.

"Here is an example of one tone." ____________________

"Here is an example of two tones." ____________________

"Ready, now, for practice exercise number 1." __________(write "1" or "2")

"The answer is 1 (one) because the tonal presentation had one pitch."

"Ready, now for practice exercise number 2." __________(write "1" or "2")

"The answer is 2 (two) because the tonal presentation had two pitches present."

- - - - - - - - - -

"Now you are ready to take the test. Mark your answers in the columns indicated below. There will be a four-second interval to indicate the conslusion of a set. You should, during that time, get ready to start the next column."

- - - - - - - - - -

| Set 1 | Set 2 | Set 3 | Set 4 | Set 5 | Set 6 | Set 7 | Set 8 | Set 9 | Set 10 |
|---|---|---|---|---|---|---|---|---|---|
| 1.___ | 1.___ | 1.___ | 1.___ | 1.___ | 1.___ | 1.___ | 1.___ | 1.___ | 1.___ |
| 2.___ | 2.___ | 2.___ | 2.___ | 2.___ | 2.___ | 2.___ | 2.___ | 2.___ | 2.___ |
| 3.___ | 3.___ | 3.___ | 3.___ | 3.___ | 3.___ | 3.___ | 3.___ | 3.___ | 3.___ |
| 4.___ | 4.___ | 4.___ | 4.___ | 4.___ | 4.___ | 4.___ | 4.___ | 4.___ | 4.___ |
| 5.___ | 5.___ | 5.___ | 5.___ | 5.___ | 5.___ | 5.___ | 5.___ | 5.___ | 5.___ |
| 6.___ | 6.___ | 6.___ | 6.___ | 6.___ | 6.___ | 6.___ | 6.___ | 6.___ | 6.___ |
| 7.___ | 7.___ | 7.___ | 7.___ | 7.___ | 7.___ | 7.___ | 7.___ | 7.___ | 7.___ |

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# APPENDIX B

## FREQUENCIES
(Deviations in cents)

| SERIES | ($A_3$)<br>220.0 | ($Eb_4$)<br>311.13 | ($C_3$)<br>130.81 | ($D_1$)<br>36.708 | ($B_5$)<br>987.77 | ($D_7$)<br>2349.3 | ($G_2$)<br>92.499 |
|---|---|---|---|---|---|---|---|
| 1. | 40 | 100 | 80 | 40 | 10 | 70 | 50 |
| 2. | 90 | 50 | 50 | 90 | 80 | 40 | 10 |
| 3. | 100 | 10 | 70 | 70 | 70 | 60 | 100 |
| 4. | 50 | 60 | 40 | 30 | 20 | 30 | 20 |
| 5. | 70 | 70 | 60 | 60 | 90 | 50 | 80 |
| 6. | 20 | 20 | 30 | 20 | 60 | 90 | 30 |
| 7. | 80 | 80 | 90 | 80 | 30 | 20 | 70 |
| 8. | 10 | 40 | 20 | 100 | 100 | 100 | 40 |
| 9. | 30 | 90 | 100 | 50 | 50 | 80 | 90 |
| 10. | 60 | 30 | 10 | 10 | 40 | 10 | 60 |

ILABLE

# EDITORIAL PERSPECTIVES IN SUNDAY SCHOOL HYMNALS PUBLISHED BETWEEN 1859 AND 1898 WHICH REFLECT EDUCATIONAL PHILOSOPHY AND PRACTICE*

Mary Voogt

Lowell Mason experienced such success teaching music to the men and women of Boston using Pestalozzian principles that he adapted the techniques to the teaching of children (Tellstrom, 1966, pp. 37-38). His experiments convinced educators and the public of the truth of his belief that "a capacity for music is much more common than is generally supposed" (Mason, 1826, p. 21). The city of Boston made music a part of its public school curriculum in 1838, followed by Chicago in 1841, and Cincinnati in 1846 (Tellstrom, 1966, pp. 35, 39). This interest in teaching music to children led to publications for both public schools and Sunday Schools. Instructional series such as Lowell Mason and George Webb's The Primary School Song Book in Two Parts (1846), Mason's The Song Garden Series (1864), Hosea Holt's Normal Music Course (1883), and Luther Mason's National Music Course (1873-1895) were published for public schools. Hymnals for Sunday School children also flooded the market. Thirty-four Sunday School hymnals published between 1859 and 1898 were surveyed for content and editorial perspective. The hymnals are listed chronologically by short title and the contents of each itemized in Figure 1. The full title and publication information for each hymnal is listed in Note 1. The perspectives of the editors of some of these

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* Based on Mary Voogt's master's thesis at the University of Missouri-Kansas City.

|  |  |  |  |  | AGE LEVEL |  |  |  |  | INDICES |  |  |  |  |  | WORSHIP AIDS |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DATE | TITLE | DENOMINATIONAL | NUMBER OF HYMN TEXTS | NUMBER OF HYMN TUNES | NON GRADED | JUNIORS ONLY | JUNIORS PRIMARY | JUNIORS YOUTH | SUBJECT GROUPING | SUBJECT INDEX | TITLE/FIRST LINE INDEX | COMPOSER INDEX | AUTHOR INDEX | METRICAL INDEX | TUNE NAME INDEX | PSALMS | PRAYERS | RESPONSIVE READINGS | ORDERS OF WORSHIP | DOCTRINAL AIDS | HYMNOLOGICAL STUDIES | TEACHING AIDS |
| 1859 | Oriola |  | 314 | 165 | X |  |  |  |  | X | X |  |  |  | X |  |  |  |  |  |  |  |
| 1859 | Sabbath Chimes |  | 350 | 190 | X |  |  |  | X |  | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1860 | Sabbath School Hymn and Tune |  | 220 | 220 |  |  |  |  | X | X | X |  |  |  | X |  |  |  |  |  |  |  |
| 1860 | Sabbath School Bell No. 2 |  | 172 | 125 | X |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| 1861 | Bradbury's Golden Chain |  | 125 | 110 | X |  |  |  |  |  | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1865 | Plymouth Sabbath Col. |  | 255 | 105 | X |  |  |  |  |  | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1865 | Happy Voices |  | 244 | 165 | X |  |  |  |  |  | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1865 | The Casket |  | 125 | 118 | X |  |  |  |  |  | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1866 | Golden Promise |  | 135 | 120 | X |  |  |  |  |  | X |  |  |  | X |  |  |  |  |  |  |  |
| 1867 | Fresh Laurels |  | 181 | 161 | X |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| 1868 | Shining Pearls |  | 51 | 51 | X |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| 1869 | Bright Jewels |  | 172 | 158 | X |  |  |  |  | X | X |  |  |  |  |  |  |  |  |  |  |  |
| 1870 | Sabbath Songs for Child. |  | 210 | 161 | X |  |  |  |  |  | X |  |  |  | X |  |  |  | X |  |  |  |
| 1870 | Silver Song |  | 158 | 158 | X |  | X | X |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| n.d. | Sunday School Harmonist |  | 125 | 115 | X |  | X | X |  |  | X |  |  |  | X |  |  |  |  |  |  |  |
| 1871 | The Charm |  | 142 | 120 | X |  | X | X |  | X | X |  |  |  |  |  |  |  |  |  |  |  |
| 1871 | Pure Gold |  | 175 | 151 | X |  |  |  |  | X | X |  |  |  |  |  |  |  |  |  |  |  |
| 1871 | Sparkling Jewels |  | 92 | 92 | X |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| 1872 | Golden Rule |  | 135 | 135 | X |  |  |  |  |  | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1874 | Golden Gate |  | 151 | 122 | X |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| 1876 | Garlands of Praise |  | 165 | 162 | X |  |  |  |  | X | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1876 | Good News |  | 282 | 272 | X |  |  |  |  |  | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1877 | Welcome Tidings |  | 183 | 145 | X |  |  |  |  | X | X |  |  |  |  |  |  |  |  |  |  |  |
| 1878 | Precious Jewels |  | 83 | 82 | X |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| 1880 | Children's Hymnal With.. |  | 246 | 272 | X |  | X |  | X | X | X |  |  |  |  |  |  |  |  |  |  |  |
| 1881 | Gem of Gems |  | 193 | 164 | X |  |  |  |  | X | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1881 | Good as Gold |  | 235 | 170 | X |  |  |  |  | X | X |  |  |  |  |  |  |  |  |  |  |  |
| 1885 | Epworth Hymnal |  | 300 | 305 | X |  |  |  |  |  | X |  |  |  |  |  |  |  |  | X |  |  |
| 1885 | Our Song Wreath |  | 31 | 31 | X |  |  |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| 1891 | Jeweled Crown |  | 180 | 180 | X |  |  |  |  | X | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1895 | Spirit and Life No. 2 |  | 190 | 185 | X |  |  |  |  | X | X* |  |  |  |  |  |  |  |  |  |  |  |
| 1896 | Sunday-School Book | X | 300 | 6 | X |  |  |  | X |  | X |  |  |  |  | X |  |  | X | X |  |  |
| 1897 | Young People's Hymnal | X | 245 | 224 |  |  |  | X |  | X | X |  |  |  |  |  |  |  |  | X |  |  |
| 1898 | Songs of Zion |  | 104 | 73 | X |  |  |  |  |  | X* |  |  |  |  |  |  |  |  |  |  |  |

*Some tune names listed as titles

Figure 1. Chronological list of hymnals.

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hymnals will be shown to reflect the educational philosophy of the time.

The central emphasis of the Pestalozzian educational theory, which Lowell Mason thought he was following, was the moral development of the child. Moral development took precedence over both physical and intellectual development (Tellstrom, 1966, p. 25). Pestalozzi "considered music a prime contributor in effecting the moral aim of children" (Tellstrom, 1966, p. 25). Pestalozzi thought that singing, rather than the study of music principles, could reinforce emotions and cultivate a gentle spirit. Editors of Sunday School hymnals of this time period also attribute to singing the power to influence the moral development and even the salvation of the young.

Robert Lowry and Howard Doane state in the preface to *Pure Gold for the Sunday School* (1871) that "The music of the Sunday School is now acknowledged to be an important factor in that grand educational force which is levering up the rising generation to a plane of personal morality and Christian enlightenment" (Note 1, p. 2). They indicate that they have "aimed at a compilation of songs that would carry with them not only transient gratification, but permanent profit" (Note 1, p. 2). In 1872 S. W. Straub, editor of *The Golden Rule*, also mentions moral development. He indicates "That the religious and moral influence of Sunday School is second to none, is conceded by all" (Note 1, p. 2).

Editors of some Sunday School hymnals indicate that salvation, a specific type of moral development, was their goal. William B. Bradbury states in the preface to *Bradbury's Fresh Laurels for the Sabbath School* (1867) that:

> Believing in the early conversion of children to Christ, we have tried to put such songs in their mouths . . . as shall lead them directly to their loving Saviour. (Note 1, p. 2)

Horace Waters, in the preface to Sabbath School Bell No. 2 (1860) writes, "and we hope by the instrumentality of this book to sing a great multitude into the kingdom of Heaven" (Note 1). Even the title, Happy Voices (1865), indicates a positive view of the Sunday School. The preface states the editor's hope that this volume will "promote not only the happiness, but the salvation of the young" (Note 1, p. 2). In the preface to Pure Gold for the Sunday School (1871), the editors write, "With the hope that our labors may, in some degree, help the Sunday School teacher in his blessed calling, and be instrumental in leading many souls to the dear Redeemer . . . " (Note 1, p. 3).

Other editors of hymnals published between 1859 and 1872 who express a similar evangelistic goal for their hymnals are C. C. Mudge in The Sabbath Chimes (1859), Leonard Marshall in Sabbath Songs for Children's Worship (1870), W. A. Ogden in The Silver Song (1870), and P. P. Bliss in The Charm (1871).

From 1872 to 1898, only three editors from this survey make reference to evangelism as a goal of their works. These references appear in The Children's Hymnal (1880), The Young People's Hymnal (1897), and Songs of Zion (1898). Henry Wilder Foote, in his Three Centuries of American Hymnody (1940), suggests that

> The great wave of enthusiasm for missions which marked the period from about 1820 to about 1870 had passed its crest, and with

> it ebbed the impulse to write missionary hymns. (Note 1, p. 263)

Through Rousseau educators had come to respect the natural process of a child's growth and development. The emphasis of this theory "was upon the development of the child from within" (Tellstrom, 1966, p. 27). Two essential aspects of the application of developmentalism to the educational process are reflected in the editorial statements found in Sunday School hymnals of this time period. The first of these aspects of developmentalism is the need to teach from the simple to the complex, thus adapting the subject matter to the child's growth process.

As early as Bradbury in 1859 and Mason in 1860, editors of Sunday School hymnals discussed the need for music that children could understand and enjoy. Although differences of opinion existed over the use of secular tunes, the use of newly composed music, and the use of standard hymn tunes, all editors attempted to make their music appropriate for children. Bradbury's comment in Fresh Laurels (1867) is representative of the attitude of hymnal editors of that time. He says that "GOOD [sic] music, suited to the tastes and adapted to the capacities of children, must frequently be introduced" (Note 1, p. 2).

It is not until 1870 that an editor presents the idea of providing music for various age groups of children within the Sunday School. Speaking of the hymns of The Silver Song (1870), Ogden the editor writes, "These are divided into three departments, viz:--Songs for 'General Class,' Songs for 'Infant Class,' and songs and choruses for the Sunday School and Home Circle" (Note 1, p. 2).

The use of the word "infant" to describe a

Sunday School age group was quite common at this time. It was used as early as 1860 by Waters in The Sabbath School Bell No. 2. Beneath the title "Happy Days of Childhood (Note 1, p. 71) is the designation "for the Infant Class." This is the only Infant Class song in that collection.

Hymns designated for the Infant Class are probably meant to be sung by three- and four-year olds as well as children in the lower elementary grades. The vocabulary seems to be aimed at young children. Phrases are short. Eighth and quarter note values are used almost exclusively. The repetitive melodies consist of much stepwise movement and frequent repeated notes. Skips, when used, outline triads. Tonic, subdominant and dominant harmonies are usual.

Although Bliss in The Charm (1871) includes a section of songs designated for the Infant Class, he makes no editorial statement about presenting music appropriate for different age groups. Included in this section is "The Storm--An Exercise Song" (Note 1, p. 108). The directions indicate the children are to use their hands and feet in imitating rain, thunder, and wind. The use of hand motions with song is a common practice even today with small children.

Developments within The American Sunday School Union at this time indicate a growing awareness of the need to provide materials appropriate for various age groups. The first primary teacher's meeting took place in St. Paul's Methodist Episcopal Church in Newark in 1870 (Development, 1905, p. 19), the year of Ogden's The Silver Song. The resulting Newark Primary Union became the National Primary Union in 1884. In spite of the union's goal of a separate course for the primary departments, it was not until 1901 that the first one-year course for primary grades appeared (Development, 1905, p. 19).

Despite Ogden's age grouping in The Silver Song (1870), such grouping did not become common practice. Shaw designates a single song for the Infant Class in The Golden Gate (1874). Hull includes one song with hand motions in Garlands of Praise (1876). In Spirit and Life No. 2 (1895), the editor, Lorenz, includes "children" as a subject heading in the topical index. Fifteen songs are listed. These fifteen songs are scattered throughout the contents of the hymnal.

The first hymnal in this survey that is geared specifically for older children is The Young People's Hymnal (1897) edited by W. D. Kirkland, James Atkins, and William J. Kirkpatrick. No exact ages are indicated in the preface.

From 1859 to 1898 there is the beginning of editorial interest in providing music for distinct age groups. Criteria for choosing music appropriate for various age groups are nearly non-existent. Usually music for more than one age group is presented in one hymnal. Graded books for school use were appearing at this time.

The second aspect of developmentalism considered essential in an educational process was maintaining the interest of the student. "The developmentalists considered interest as the prime stimulant or motivation for learning" (Tellstrom, 1966, p. 94). Editors of Sunday School hymnals emphasize the importance of maintaining the interest of the children in Sunday School through the use of song.

As early as 1836, Lowell Mason refers to the importance of maintaining the child's interest in singing in the preface to Sabbath School Songs. Mason writes:

> The music will be found very simple and easy, and in general of a lighter or more melodious character than is usual in common psalm tunes. Experience proves that music of this kind is more pleasing than that of a heavier or slower character, and that it is calculated to make the exercise of singing in Sabbath Schools more interesting and useful. (Mason, 1936, p. 2)

The primary way of maintaining interest in Sunday Schools proposed by the editors of Sunday School hymnals in the years 1859 to 1898 was through the repeated introduction of newly composed song material.

The 1859 Bradbury title, Oriola, A New and Complete Hymn and Tune Book for Sabbath Schools, emphasizes the word "new." In addition to the title's emphasis, the preface also shows support for new hymns by criticizing the use of standard hymn tunes. Bradbury writes:

> We do not believe in the stiff, old-fashioned way many have of keeping the children singing nothing but Old Hundred, Dundee, Mear, St. Martins, and such like. Good old tunes these, no one will deny, and should be sung from time to time, but they are not in any peculiar sense children's tunes, and the children should not be limited to them. (Note 1, p. iii)

As a replacement for the standard hymn repertoire, Bradbury offers "current popular melodies and many composed for this volume" (Note 1, p. iii).

In the preface to Bradbury's Golden Chain of Sabbath School Melodies (1861), Bradbury succinctly states his goal. The purpose of the volume is "to furnish a pleasing variety of good NEW [sic] music and hymns composed and arranged expressly for the Sabbath School at a very moderate price" (Note 2, p. 2).

Asa Hull states in the preface to The Casket of Sunday School Melodies (1865) that "In compiling the 'Casket' it has been the leading object of the author to furnish the largest amount of new music in the smallest space possible" (Note 1, p. 2).

Bradbury relates the maintenance of interest directly to the use of newly composed music in his preface to Fresh Laurels (1867). He states that "in order to keep up the interest in the school, new music, and GOOD music, suited to the tastes, and adapted to the capacities of children must frequently be introduced" (Note 1, p. 2).

Similar tributes to the benefits of newly composed hymns and tunes are found in the prefaces of the following works:

1869 Robert Lowry's Bright Jewels for the Sunday School

1870 Leonard Marshall's Sabbath Songs for Children's Worship

1870 W. A. Ogden's The Silver Song

1871 Knowles Shaw's Sparkling Jewels for the Sunday School

1872 S. W. Straub's The Golden Rule

After 1872 there is less editorial emphasis on newly composed music. Several hymnal titles still indicate this emphasis:

1877 Robert Lowry, Howard Doane, and Ira Sankey's Welcome Tidings: A New Collection of Sacred Songs for the Sunday School

1881 Robert Lowry and W. Howard Doane's Good as Gold: A New Collection of Sunday School Songs

1891 Asa Hull's The Jeweled Crown: A Choice Collection of Original Hymns and Tunes for the Sunday-School

1895 E. S. Lorenz's Spirit and Life No. 2: A Collection of New Songs for the Sunday School, Young People's Societies, Gospel and Devotional Meetings, Etc., Etc.

A regard for newly composed music can also be deduced when the editor or editors of the volume compose all of the music, or when the publisher copyrights most of the music for that edition.

Robert Lowry and Howard Doane edited and published Pure Gold for the Sunday School in 1871. Of the 151 tunes included, Lowry and Doane are credited with 111. Lowry and Doane again combined efforts on the hymnbook Welcome Tidings (1877). Ninety-three of the 145 tunes in this volume are copyright 1877 by either Biglow & Main or John Church & Co., the two publishers listed on the title page. In a similar effort in 1881, Good as Gold, Biglow & Main hold the 1880 copyright on 130 of 170 tunes.

By the end of the nineteenth century there is less emphasis on newly composed music. The 1898 title Songs of Zion, A Collection of Old and New Songs for Sabbath Schools, Prayer Meetings, Revivals and All Other Religious Worship indicates that this book includes both the old hymns and newly composed hymns.

The editorial emphasis on newly composed music, perhaps in response to the developmentalist emphasis on the importance of maintaining interest, resulted in a strong reaction from other editors. Mason was the first to recognize the danger of conforming to the "fancied wants of children" (Park, Phelps, Wayland, Mason, Note 1, p. ii). In the introduction to The Sabbath School Hymn and Tune Book (1860) he and three other editors indicate that it was poor singing habits, especially slow singing, that led leaders to believe a more spirited type of song was necessary for children. Mason indicates that the solution to the problem of poor singing habits is not in the choice of music, but in the training (Note 1, 1860, p. ii). In a lengthy introduction to this work Mason makes several points which are echoed in prefaces of Sunday School hymnbooks later in the nineteenth century. Mason suggests that "tunes of an inferior character were written" (Note 1, 1860, p. ii) because it seemed that children liked them. He comments that children exposed only to "jigs, ditties, negro songs (so called) [sic] and silly tunes" (Note 1, 1860, p. iii) will have a hard time appreciating devout worship music. Mason apparently did not approve of "the setting of some of the less objectionable secular melodies to sacred words" (Note 1, 1860, p. ii). He seems to object to secular tunes because "the religious end of the singing exercise is often almost wholly ignored, and the song is made a mere amusement" (Note 1, 1860, p. iii).

Mason is also the first editor to present the idea that correct training of children in Sunday School music will both enhance their ability to worship as adults, and improve congregational singing.

> The importance of restoring to the people their right and ability to participate vocally in the service of song, seems to be extensively felt, and there is much inquiry as to the ways and means of doing this. Here is one of the most efficient: Let the children be taught in the Sabbath School to use and love the hymns and tunes used in the great congregation, and very much will be done toward securing good congregational singing. (Note 1, 1860, p. iv)

In the same year in the preface to Sabbath School Bell No. 2 (1860), Horace Waters alludes to this controversy over the use of secular tunes for Sunday School. Waters supports the premise that all music is intrinsically holy "although it is sometimes, like the livery of heaven, used for profane purposes" (Note 1). Since he believes all music to be holy, he can defend the use of secular music.

> It is well known that many secular compositions possess unequaled excellence and power as music, and are especially adapted by their animation and embodiment of the true idea of music, to interest the young. In connection with the new sentiments they utter, their former associations will be forgotten, and their fire and spirit be secured for the inculcation of holier sentiments. (Note 1)

Reference has been made to Hull's desire to "furnish the largest amount of new music in the smallest space possible" in The Casket (1865) (Note 1, p. 2). In the same preface Hull suggests that:

> For the sake of experiment will choristers using this book select such pieces as . . . "Nearer My God to Thee," "Rock of Ages," etc. learning them thoroughly, giving the children the same chance to learn them as other tunes of a more rapid movement? Then give them an opportunity to show their preference and you will soon learn they can be interested in music which is really good . . . . (Note 1, p. 2)

Hull's use of the phrase "music which is really good" to describe standard hymn repertoire seems to indicate his personal values. He seems to be trying to persuade the leaders who use this little book not to neglect standard hymns. To find this suggestion in the same preface with the boldly stated goal of providing a large amount of newly composed music seems contradictory.

In the preface to *Fresh Laurels* (1867) Bradbury indicates the same two goals. He comments on his inclusion of "*new music*, and GOOD [sic] music, suited to the tastes and adapted to the capacities of children" (Note 1, p. 2). Then he immediately follows this statement with, "far be it from us to object to their learning the standard tunes of the church; on the other hand, so important do we consider this, that we have inserted a large number of them in 'FRESH LAURELS'" (Note 1, p. 2). Bradbury is not as strong in his defense of standard hymns as was Hull. He seems to have included standard hymns in his book to preclude objection to their absence. His use of the word "inserted" to describe the inclusion of standard hymns even implies a preconceived package of new songs in which he has now layered some existing great hymns.

Only two years later, Robert Lowry, a coworker of Bradbury, makes the following statement in the preface of Bright Jewels (1869). "It has not been deemed advisable to introduce in 'BRIGHT JEWELS' any considerable number of the 'old standards' which are supposed to be in possession of all our Sunday Schools" (Note 1, p. 2). The fact that Lowry mentions the absence of the hymns indicates that the issue of new songs versus standard hymns was not settled yet. Lowry avoids responsibility for providing standard hymn repertoire for children by indicating that Sunday Schools already own copies. S. W. Straub, in The Golden Rule (1872) writes "While nearly all the words and music in the 'Golden Rule' are new, a few of the indispensible standard pieces are used" (Note 1, p.2).

It is not until 1876, in the preface to Good News, that another editor follows Mason's direction and encourages the use of standard hymns by children both for worship training and for the future improvement of congregational singing. McIntosh, the editor, writes:

> We considered it best to occupy some of the space with familiar pieces from former publications, and standard hymns and tunes that are already in general use among the congregations; because such an arrangement, we believe, greatly facilitates the introduction of a new book, and tends to familiarize the young people with the "worship song" of the sanctuary; a matter that should be kept constantly in view by all who would encourage congregational singing. (Note 1, p. 2)

In the preface to The Jeweled Crown (1891) Hull indicates the still secondary place of standard hymn repertoire, "A few of the old standard church tunes have been introduced to fill parts of pages--a feature of our late books, which has been received with such general favor as to induce us to continue the same plan herein" (Note 1, p. 2).

The controversy over the use of newly composed, child-oriented song material versus the use of standard worship hymns in Sunday School seems to reflect the controversy between advocates of the rote-note method of the National Music Course and the note method of the Normal Music Course (Tellstrom, 1866, pp. 82-83). Those advocating newly composed song material for Sunday Schools and the rote-note method of instruction in public schools seem to have immediate gratification as a primary argument. Children would enjoy Sunday School and enjoy music, and as a result be encouraged to participate in further experiences. Those advocating standard worship hymn repertoire for Sunday Schools and the note method of instruction in public schools seem to emphasize the further results. Congregational singing would improve, and children would develop independent musicianship.

In the twentieth century denominational publishing houses produced a large number of hymnals for Sunday Schools. The goal of providing age-appropriate materials became even more important, resulting in graded hymnals. Denominational hymnals also emphasized traditional worship hymns. Non-denominational publications for Sunday Schools, less likely to be graded or to emphasize the worship hymn, continue to be available. Parallels to educational theory may be discernable in a study of the editorial statements of twentieth century Sunday School publications. Certainly the concerns were similar during the last third of the nineteenth century.

# Reference Notes

1. A chronological listing of the complete publication information for all the hymnals listed by short title in Figure 1.

1859 Bradbury, William B. Oriola. A New and Complete Hymn and Tune Book for Sabbath Schools. Cincinnati: Moore, Wilstach, Keys & Company.

1859 Mudge, C. C., ed. The Sabbath Chimes, A Collection of 100 Tunes and 350 Hymns for the Use of Sabbath Schools. Brooklyn, N.Y.: [n.p.]

1860 Park, Edwards A.; Phelps, Austin; Wayland, Francis; and Mason, Lowell, (Eds.) The Sabbath School Hymn and Tune Book. New York: Mason Brothers.

1860 Waters, Horace, Ed. Sabbath School Bell No. 2, A Superior Collection of Choice Tunes, Newly Arranged and Composed, And a Large Number of Excellent Hymns. New York: Horace Waters.

1861 Bradbury, Wm. B. Bradbury's Golden Chain of Sabbath School Melodies, Comprising a Great Variety of New Music and Hymns, Composed and Written Expressly for the Sabbath School, Together With Many of the Well Known Sabbath School Pieces. New York: Ivison, Phinney & Company.

1865 Bradbury, Wm. B. The Plymouth

*Sabbath School Collection of Hymns and Tunes*. New York: Wm. B. Bradbury.

1865 *Happy Voices, New Hymns and Tunes, With Many Popular and Sterling Old Ones, for the Home Circle and Sabbath-Schools*. New York: American Tract Society.

1865 Hull, Asa, Comp. *The Casket of Sunday School Melodies*. Enlarged and improved edition. Philadelphia: Asa Hull.

1866 Perkins, T. E. *The Golden Promise, A New Collection of Hymns and Tunes for Sabbath Schools*. New York: Brown & Perkins.

1867 Bradbury, William B. *Bradbury's Fresh Laurels for the Sabbath School, A New and Extensive Collection of Music and Hymns, Prepared Expressly for Sabbath Schools, etc.* New York: William B. Bradbury.

1868 Shaw, Knowles. *Shining Pearls, A Collection of Choice Music for Revivals and Sunday Schools*. Cincinnati: John Church, Jr.

1869 Lowry, Robert, ed. *Bright Jewels for the Sunday School, A New Collection of Sunday School Songs Written Expressly for This Work, Many of Which are the Latest Compositions of William B. Bradbury, and Have Never Before Been Published*. New York: Biglow & Main.

1870 Marshall, Leonard. *Sabbath Songs for*

*Children's Worship*. Boston: Lee & Shepard.

1870 Ogden, W. A. *The Silver Song, A Choice Collection of New Sabbath School Music*. Toledo: W. W. Whitney.

18-- *The New Sunday-School Harmonist, A Collection of Tunes for Anniversary Occasions, and General Use in Sabbath Schools*. New York: T. Carlton & J. Porter.

1871 Bliss, P. P. *The Charm, A Collection of Sunday School Music*. Chicago: Root & Bady.

1871 Lowry, Robert and Doane, W. Howard. *Pure Gold for the Sunday School, A New Collection of Songs Prepared and Adapted for Sunday School Exercises*. New York: Biglow & Main.

1871 Shaw, Knowles. *Sparkling Jewels for the Sunday School, A New Collection of Choice Music*. Cincinnati: John Church & Co.

1872 Straub, S. W. *The Golden Rule, A Collection of Songs, Hymns, and Chants for Sunday-Schools, Juvenile Concerts, Festivals, Anniversaries, and the Home Circle*. Cincinnati: John Church & Co.

1874 Shaw, Knowles. *The Golden Gate, A Collection of New Songs for the Sunday-School, Prayer Meeting, and Social Circle*. Cincinnati: John Church & Co.

1876 Hull, Asa. *Garlands of Praise, A Choice Collection of Original and Selected Hymns and Tunes Suitable for Sunday-Schools, Bible Classes and the Home-Circle*. New York: Asa Hull.

1876 McIntosh, R. M., ed. *Good News, Or Songs and Tunes for Sunday Schools, Christian Associations, and Special Meetings*. Boston: Oliver Ditson & Company.

1877 Lowry, Robert; Doane, W. Howard; and Sankey, Ira D. *Welcome Tidings, A New Collection of Sacred Songs for the Sunday School*. New York: Biglow & Main.

1878 Leslie, N. H. and MaHaffey, R. B. *Precious Jewels for Sabbath Schools, Prayer and Praise Meetings, and the Home Circle*. New York: Himan & Woodward.

1880 Tucker, J. Ireland, (Ed.) *The Children's Hymnal, With Tunes*. Hartford, Conn.: W. W. Huntington, Agent, Publisher.

1881 Hull, Asa. *The Gem of Gems, A Choice Collection of Sacred Songs, Original and Selected for the Use of Sunday-Schools, Bible Classes and Social Worship*. New York: Daniel W. Knowles.

1881 Lowry, Robert, and Doane, W. Howard. *Good as Gold, A New Collection of Sunday School Songs*. New York: Biglow & Main.

1885 *The Epworth Hymnal, Containing Standard Hymns of the Church, Songs for the Sunday-School, Songs for Social Services, Songs for the Home Circle, Songs for Special Occasions*. New York: Hunt & Eaton.

1885 Vaughn, John B. *Our Song Wreath, For Sunday-Schools and Gospel Meetings*. Dalton, Ga.: A. J. Showalter & Company.

1891 Hull, Asa. *The Jeweled Crown, A Choice Collection of Original Hymns and Tunes for the Sunday-School*. New York: Asa Hull.

1895 Lorenz, E. S. *Spirit and Life No. 2, A Collection of New Songs for the Sunday School, Young People's Societies, Gospel and Devotional Meetings, etc., etc.* Dayton, Ohio: Lorenz & Company.

1896 Evangelical Lutheran Church in North America. *Sunday-School Book, For the Use of Evangelical Lutheran Congregations*. Revised and enlarged edition. Philadelphia: General Council Publication Board.

1897 Kirkland, W. D.; Atkins, James; and Kirkpatrick, William J. *The Young People's Hymnal, Adapted to the Use of Sunday Schools, Epworth Leagues, Prayer Meetings, and Revivals*. Nashville: Publishing House of the Methodist Episcopal Church, South.

1898 Brown, S. M. and Hunt, J. M. *Songs of Zion, A Collection of Old and New Songs for Sabbath Schools, Prayer*

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A Position Paper --

# TOWARD KNOWING AND LIKING MUSICAL STYLES: THE HEURISTIC METHOD

Patricia K. Shehan
Washington University in St. Louis

One concern of music education is the expansion of students' understanding and enjoyment of many divergent musical styles. It is generally assumed that music with which students have been previously unfamiliar becomes better understood and is valued more highly as a result of exposure and instruction; however, objective evaluation is desirable to determine the validity of this assumption.

A wide variety of sources exposes a student to many musical styles every day. The media of television, radio, and recordings may exert a compelling influence on individuals through styles made available at home, at school, in cars, stores, offices, and restaurants. Whether the exposure is informal and unplanned or formally structured, the individual becomes selective about the music chosen to remain within a personal environment. As music is sounded and information on styles is transmitted to the student, attitudes are developed, and preference is learned and exercised.

There are many factors in the process of music education which affect the music preference of the students. A number of techniques have been utilized to assess musical preference, including verbalized responses, pictographic and written self-reports, physiological measures, and behavioral evaluations (Kuhn, 1981). A survey of the literature on music preference research indicates that music preference decisions are based upon the "interaction of input information and the characteristics of the listener, with input information consisting of the music stimulus and listener's cultural environment" (LeBlanc, 1980).

Music educators are responsible for the exposure of students to the variety of music styles present throughout the world. Music experiences should focus on the development of knowledge and skills to prepare the student for the personal valuing process which occurs. When styles are eliminated from the curriculum, students are limited in their future music selection behaviors. Instruction should place students in a position to make intelligent value judgments concerning the style selection they prefer as performers and consumers of music. As reflected in recent basal music series, music materials presented to students should be a sampling of many styles, and not just the individual teacher's, or the student's, preferred style.

Music educators face a basic problem in their roles as guides to understanding and appreciation of musical styles in that the amount of time a student spends in a school music program is minimal, and does not compare with the duration spent in musical experiences outside the classroom. The cultural background of the community makes available a constant barrage of styles through the media or social activities of the individual's particular community subgroup. Music educators have only the time allotted during the school day, and must make the most effective use of that time. Within the constraints of the music classroom, efforts must be expended to impact on the development of knowledge, skills, and values.

Miller (1974) cites reasons for the emergence of rock music as the most highly preferred music style of upper elementary children and adolescents:

> Listening to rock music is strongly associated with nonschool, social activities. This cultural phenomenon has become a powerful conditioned reinforcer because of nonmusic or extramusic events with which it is connected. (p. 78)

Sociocultural barriers shape the individual's outlook and therefore act to inhibit the student in transcending environmental limitations. It is essential that a music class is well-structured, and that materials and experiences are presented in an attractive manner that will result in maximum learning as a foundation for affective response.

Masterful teaching and successful learning behavior are dependent upon the effective communication of information through the interaction of the student and teacher with the material and activity presented. The successful attainment of concepts hinges on teaching methodology. A focus on methodology in music education is necessary to eliminate the isolation of school music from that music available in the out-of-school cultural environment, and to allow the learning setting to release knowledge in ways that render students more educated and interested.

Since the mid-1960's, a growing number of educators have advocated that instruction provide opportunities to exercise creative options, imagination, and self-mastery. Teachers have been encouraged to set up circumstances in which the student alone might find the concept being taught. The heuristic method is related to exploratory problem-solving techniques that utilize self-education to improve performance. Intensive preconceptualization efforts are essential to the approach, which is largely experiential and participatory. Students are encouraged to explore their environment for solutions to problems, and then to make inferences of concepts from invariant properties.

Bruner is the major proponent of what is termed the discovery method, a type of learning which requires the rearrangement of subject matter structure so that the learner is able to go beyond the evidence presented to new insights. Emphasizing process rather than content, Bruner (1968) advises:

> Let us not judge our students simply on what they know. That is a philosophy of the quiz program. Rather, let them be judged on what they can generate from what they know--how well they can leap barriers from learning to thinking. (p. 192)

The discovery method is heuristic, insisting that the student manipulate materials and cope with incongruities and contrasts, from which information is derived.

Fowler (1966) compares the didactic-deductive approach to the heuristic-inductive approach:

> While the deductive approach begins with the statement of a rule, the induction method relies on being able to tell how to do it. (p. 129)

In making application of this indirect instructional method, Fowler (1970) credits musical performance with the illustration of the time-honored philosophy of learning by doing.

He follows:

> The issues in the performance class are not student-teacher but student-music. Through continual experimentation and discovery, the possibilities of both the student and the art of music expand to encompass the total range of human and music capabilities. (p. 26)

Holding to a pragmatic belief that learning occurs through experience, MacMurray (1958) states that

> . . . (a) pupil's activity in the production of musical effect is not simply to enjoy playing or singing but to enjoy the sense of discovery and intellectual grasp. (p. 53)

Woodruff (1966) discussed a similar point:

> . . . the experiences students have will be most effective if they are genuine personal encounters with music rather than verbal substitutes for those encounters. This implies of course, that the student, not the teacher, is the active party in the encounter. (p. 54)

An examination of music textbooks used in the general music classroom gives evidence of the concern expressed by music educators about the need for programs which embody hands-on, experiential approaches to music and musical style (Boardman and Landis, 1981; Choate, Berg, Kjelson, and Troth, 1976; Marsh, Rinehart, and Savage, 1980, and Reimer, Hoffman, and MacNeil, 1981). Reimer, et al. preface their widely-used series in this manner:

> To be effective, aesthetic education must be active education . . . . Without imposition on the child, the textbooks show the child that music can be valued by all who are willing to become involved in it. (p. xi)

Implicit in textbooks and elementary music education curriculums upholding an activities-oriented view is the belief that exposing students to selected works through repeated listening or performance experiences will cause the music to be more reinforcing to the students.

In the chorus, band, orchestra rehearsal, as well as in many general music classrooms, the playing of instruments and singing are the initial phase of the learning process rather than the end. Studente listen, discuss, research, report, and experiment with the music they play and sing. The meaning of music emerges as the student discovers its forms, and its cultural manifestations.

Several studies underline the importance of student involvement in musical experiences for increasing cognitive awareness of the structural elements of musical styles. Bradley (1974) examined the aural and visual discrimination of fourth grade students for basic music notation and elements. He found that total student involvement in concept discovery through composition, performance, and listening activities evidenced greater achievement gains than those in the traditional listening and singing class. Lyke (1967) discovered the value of keyboard performance in clarifying musical concepts, such that pitch discrimination and tonal memory was better developed through a piano class than through the traditional general music class format.

Findings in recent music education research indicate that a greater awareness of the components of music through performance effects a greater liking for that type of music. Familiarity of music selections by high school choir members through rehearsal and performance produced an increase in verbal preference ratings (Clary, 1979). Shehan (1981) found that the heuristic method of Indonesian gamelan instruction was more effective in increasing operant preference for gamelan music, as well as effecting significantly greater increases in cognitive knowledge.

Bartlett (1973) and Shehan (1981) drew a relationship between achievement and preference, and concluded that greater awareness of music structure effects a greater liking for that music. It appears that as one exercises skills of discrimination in listening to a musical style, especially in the discovery of music events through performance experiences, that music is better appreciated and is more frequently selected for listening. Participatory activities which rely on student interaction with the elements of music allow for greater gains in cognitive and affective response. Research findings support the educational truism that knowing is valuing. It may be that appreciation of an art form develops in direct relationship to depth of understanding.

Musical materials presented in a manner which involves students actively in the concrete experiences of instrumental and vocal performance and inductive reasoning causes improved cognitive skills and increased preference for the music studied. The teaching behavior for a heuristic approach is preparatory, beginning before the arrival of the students. The class environment is designed for ultimate student involvement as instruments are positioned and audio-visual materials are developed for maximum use of limited class time in a discovery setting. Teacher-student interaction occurs at both the group and individual level, such that the teacher facilitates learning by guiding insight and perception of musical events and concepts.

Instruction in unfamiliar or little known music styles can produce cognitive and affective development. The current interest in multicultural education, and the arts in general education movement should encourage music educators to include study units on the music traditions of a wide variety of cultures. The challenge of a heuristic approach to the study of foreign or otherwise unfamiliar musics should be considered, and efforts must be directed to provide efficient and effective instruction in over-crowded curricula. In relatively short periods of time, classroom instruments and resources can be utilized to present divergent music styles.

Some authors have suggested that one goal of school music programs is to expose students to music that is less reinforcing in such a way that it acquires greater reinforcement value. To assume that time and materials are too limited to provide adequate instruction of a music style is to underestimate the potential of the profession. Such assumptions can lead to programs which are ineffective in expanding children's knowledge and enjoyment of great music. Effective instruction can increase children's receptiveness of unfamiliar musics.

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# ABSTRACT

## ACHIEVEMENT OF PITCH READING AND RHYTHM READING FOR BEGINNERS AND ADVANCED PIANO STUDENTS USING AN AURAL-VISUAL READING INSTRUCTION MODEL (AVRI)

Mary Dawn Bledsoe
University of Missouri-Kansas City, 1981

The question of this investigation was: Will the use of AVRI instruction result in a gain in reading the symbol, performing the symbol, and retaining these skills by beginning and advanced piano students? This study was to compare the level of achievement of nineteen beginning piano students and six advanced piano students on a rhythm and pitch reading criterion-referenced test when AVRI instruction was presented to all students in a three-month period of training.

For pitch reading, the study was limited to the achievement: steps in teaching keyboard, direction in keyboard, sets of black keys, sharp names, flat names, and reading staff notation. In the case of rhythm reading tasks, the study was limited to the achievement of duration of long and short sounds, quarter notes, eighth notes, sixteenth notes, rest values, tied values, sightreading new pieces. The investigation period was limited to the achievement within a three-month instructional period. Finally, the study was limited to the achievement of pitch reading and rhythm reading at one music studio.

A quasi-experimental design using repeated measures with equivalent instruction was adopted for examining the primary question. The pre-test scores, the post-test scores, and the retention scores on the pitch reading test and the rhythm reading test constitute the primary

data. Secondary data were years of piano training of subjects.

Beginners and advanced piano students had significant gains from pre- to post-tests for both pitch reading and rhythm reading. However, both groups did not retain post-test level on pitch reading and rhythm reading after one month of no instruction.

## ABSTRACT

## A STUDY OF THE VOCAL REGISTERS AND TRANSITIONAL PITCHES OF THE ADOLESCENT FEMALE

Anita Cyrier
University of Missouri-Kansas City, 1981

The problem was to investigate the nature of female adolescent voices related to pitch production between the vocal range, vocal registers, and transitional pitches of pre-pubescent and post-pubescent females.

The purpose of this study was to measure the vocal range of the adolescent female voice in semitones and to identify the presence or absence of any transitional pitches within the vocal range.

Eighty-five girls between the ages of ten and fifteen were the subjects of the investigation. They were the total number of volunteers responding to a request for participants from Shawnee Mission District elementary, junior and senior high schools.

A standardized record form was designed by the investigator on which the vocal ranges of the girls was recorded. The identity of any

transitional pitches was made observationally by the investigator. Then reliability of measurement was determined by simultaneously recording every twelfth student's responses with a trained observer who then independently rated and recorded the same performances.

Interviews were conducted individually with each girl being asked to sing from $g^1$ down a four semitone pattern using a "la" syllable, starting each pattern a half step lower until all semitones in her lower range had been sung. The pitch name was recorded on the evaluation form. To identify her highest pitch the student was asked to sing from $g^1$ ascending in a four semitone pattern successively until she could sing no higher. After the subject's terminal pitch was identified the investigator determined if the voice displayed any transitional pitches.

The results of the study show that ten year old girls have a considerably narrower range than do the fourteen and fifteen year olds. The older the age group the wider the vocal range. Data show that eleven and twelve year old girls' voices display an erratic pattern of transitional pitches. The thirteen and fourteen year old groups were more consistent in the width of their ranges and in placement of transitional pitches. The fourteen year old group had the widest range and the highest set of transitional pitches in relation to the other age groups considered in the study.

Subject to the limitations of the study, two conclusions regarding the characteristics of the female voice were drawn. First, the upper transitional pitch was observed to be higher in the fourteen and fifteen year olds' voice range than in the ten and eleven year olds suggesting that transitional pitches may be higher for older adolescent girls. Second, the data suggest that a child's natural range widens after age eleven to include tones above and below that set of semitones that were natural to her voice as a ten year old.

## ABSTRACT

## SELECTED ASPECTS OF THE HISTORICAL, PSYCHOLOGICAL AND PHILOSOPHICAL PRINCIPLES OF INSTRUMENTAL MUSIC EDUCATION IN AMERICAN SECONDARY SCHOOLS: A SECONDARY SCHOOL BAND CURRICULUM

Aurelia W. Hartenberger
Washington University, St. Louis

A growing concern on the part of contemporary music educators is the inevitable and ubiquitous call for "return-to-basics." It is for this reason that a music curriculum (instrumental or whatever) is needed which will meet the felt needs of administrators of this time and still do a responsible job musically and aesthetically.

The intent of this dissertation is to assist secondary band music teachers in developing a viable school band curriculum that will provide a varied, meaningful, and encompassing musical experience for all children and will help meet the unique needs of contemporary American education.

To provide insight into the development of the curriculum, consideration was given in part I to selected historical aspects of philosophical theories and psychological approaches to learning. The historical development of instrumental music in public schools subsequent to the turn of the twentieth century follows in

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chapters 2, 3, and 4, paying attention to the social, political, and cultural factors which determined its direction.

The curriculum in part II of this paper is designed to emphasize the emerging trend toward musical growth through aesthetic experience. Both long-range program objectives and short-range instructional objectives provide the focus for the guide. A sequential approach to understanding basic music concepts through the dimensions of music provides the needed structure for the guide, and a flexible, but directional and comprehensive organization of the instructional levels provide for varied experiences and the integration of learning.

Chapter 5 of the dissertation, which serves as the introduction to the curriculum defines music as a vital sustaining force in the life of every person. Attention is given to the long-range program objectives in the cognitive, psychomotor, and affective domains.

Chapter 6 deals with course descriptions and the sequential structure of the program. Following are suggested instructional procedures for the music teacher.

Organizational procedures are considered in chapter 7. In chapter 8, a sequential organizational plan of study for musical growth through conceptual understanding of the dimensions of music is outlined by semester for each of six years the student participates in an instrumental ensemble. Short-range operational objectives in musical competencies (technical, performance, aural) and musical creativity are presented, followed by musical activities.

Chapter 9 deals with evaluative criteria instruments for assessing achievement toward

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specific instructional objectives. Numerous music reference sources are provided in chapter 10. Chapter 11 is concerned with the administrative business operational procedures associated with the instrumental program.

The curriculum is quite specific, in order that it can serve as a framework on which a teacher can build, exercising sound educational practices.

## ABSTRACT

# AZTEC INDIAN MUSIC AND CULTURE IN THE ELEMENTARY SCHOOL: RATIONALE, METHOD, AND CONTENT

Linda Boyer Johnson
Washington University, St. Louis

Music educators, having taken into consideration an expressed concern for more knowledge on those who comprise the American society and their cultural heritage, have attempted to better acquaint themselves and their students with musical cultures other than those of the Western tradition. The emergence of this broadened view of music education is of particular relevance and benefit to the total education of the contemporary child since it purports to reduce the traditional tendency toward ethnocentricity. Unfamiliar musics can add an exciting dimension to general music programs, provide an additional opportunity for furthering musical learnings, and help to promote and further international understanding among different races and cultures. Consequently, music educators must continue to expand the music experience to fit today's changing world.

The only primitive music native to the mericas is that of the American Indians. The ztec civilization, as it existed in the 15th nd early 16th centuries, serves as an example f a highly organized Indian culture, victimzed by European acculturation which was ccomplished through the destruction of that hich was considered pagan--most of the ultural beliefs. Fortunately, a historical onsciousness existed among tribal members hich was passed on from generation to generaion and which continues onward in the presenation of a legacy of literary materials and rcheological remains.

The purposes of this study are (1) to proide the music educator with the necessary ationale for the inclusion of Aztec music in he general music education curriculum; (2) to rovide historical and cultural information hich will lend to a fuller and more thorough nderstanding of the Aztec culture as a whole; 3) to increase the knowledge and appreciation or the musical system of the Aztec Indians hrough a reconstruction, explanation, and llustration of its music; and (4) to suggest deas for an integrated unit of study on Aztec usic and its culture, which can be incorported into the general music education curricuum for upper elementary and middle school.

## ABSTRACT

## A COMPARISON OF ELEMENTARY GENERAL MUSIC EDUCATOR PRACTICES AND RATIONALE FOR THE INCLUSION OF MUSICAL VARIETY IN AESTHETIC EDUCATION TOWARD BROADENING MUSICAL TASTE

Michael Benjamin Roberts
Washington University, St. Louis

Within a concentrated effort to broaden and enrich life-long taste toward the variety of musical styles throughout the world, teacher selection of music for use in the classroom is a critical issue. The music education profession may find its greatest influence on consumers in the music which is provided for students in the classroom. An individual teacher's training and musical experience, behavioral goals and objectives of the class lesson, the method of presentation, properties of the musical stimulus, and learning and personal characteristics of the students all combine to influence the ultimate decision.

The purpose of this study is to discover the extent to which elementary general music teachers are currently using a wide variety of musics for broadening musical sensitivity and taste in the development of meaningful aesthetic response within the individual student. An extensive discussion of factors that influence the development of musical taste and measures of attitude, taste, and preference is presented. A further purpose is to establish through a review of the literature that elementary general music education as aesthetic education may shape and broaden musical sensitivity and taste through the use of a wide variety of musics in the teacher-selected curriculum.

A research project was initiated to identify the variety of musical styles used in the classroom by elementary general music educators. The areas of investigation included the use of basal music textbooks and supplementary music materials, music genres in actual use in the classroom, and primary curricular objectives.

Based on the results of a survey of Missouri elementary general music teachers, the following conclusions were reached: (1) Textbooks and

supplemental materials which provide a variety of musical styles are available to practicing music educators for classroom use; (2) A variety of music genres is in current use by the music educators in the elementary general music classroom. American Folk, Western Classical, and Pop/Rock are most frequently presented by the teacher, while music of Southeast Asia, Australia/Pacific, and Medieval Europe are least used; (3) More than three quarters of elementary general music educators use a moderate to high amount of music variety in the classroom; (4) Over half of the teachers surveyed consider the development of aesthetic responsiveness as a more important curricular focus than the development of musical skills; (5) There is no significant relationship between the most important music curricular objective as perceived by music educators and the amount of musical variety used in the elementary general music education classroom.

## ABSTRACT

## NON-PARTICIPATION OF FRESHMEN AND SENIOR BOYS IN HIGH SCHOOL CHOIRS

Barbara J. Kourajian
University of Missouri-Kansas City

The problem of this study was to investigate reasons why high school boys do not join choir. The purpose of the study was to determine the rank order of a list of reasons for not joining choir from ratings of these items by freshmen and senior boys who were not in choir in six Kansas City suburban high schools. A descriptive design was used for the study.

During an interview with the researcher, the subject was first asked to rate the

importance to him of each of a list of eight reasons in relationship to his decision not to join choir. Next the subject was asked a set of questions probing his background musical experience. Finally, the subject was given a new copy of the list of reasons and asked to rate the items an additional time.

The sample was a random selection of 72 freshmen and 72 senior boys (12 freshmen and 12 seniors from each school). Primary data were the importance rating given each item by the subject. Grade level, previous choral experience, and influence of someone else constituted the secondary data. Additional secondary data included the subject's responses to questions about his musical background and attitudes about singing.

Data were analyzed for frequency distributions and crosstabulations. The Kruskal-Wallis One-Way Analysis of Variance was used to test for statistical significance.

There was no significant difference in the rank order of reasons as given by freshmen and seniors. No significant difference was found in the rank order of reasons related to whether the subject had a previous choral experience or not.

## ABSTRACT

## A PILOT STUDY COMPARING GROUP AND INDIVIDUALIZED INSTRUCTION FOR TRAINING OF VOCAL PITCH MATCHING ACCURACY

Ellen K. Marx
University of Missouri-Kansas City

The problem of this study was to obtain

evidence that achievement of vocal pitch matching accuracy can be increased with training. The purpose of this study was to compare the achievement of vocal pitch matching accuracy of seventh and eighth graders who were trained with group and individualized instruction.

The study was limited to the effect of treatment on one task--vocal pitch matching accuracy. Training tapes, pre-tests and post-tests used a synthesizer for consistent sound with equal amounts of time between items for student repetition.

A quasi-experimental design was used in this study. The sample was drawn from two parochial schools. All seventh and eighth graders were involved in group instruction. A smaller sample was drawn for individualized instruction.

The primary data consisted of the pre- and post-test scores. Sex, type of instruction, grade level, and school constituted the secondary data.

Frequency distribution, t-test, analysis of variance and mean scores were used to test for significant differences in achievement between groups.

The findings in this study indicate that vocal pitch matching achievement can be improved with training. In this study, students trained with individualized instruction achieved statistically significant gains than those trained with group instruction, although both groups showed significant gain. School, grade level, and sex did not make a significant difference in achievement.

Subject to the circumstances and

limitations of this study it was concluded that vocal pitch matching accuracy can be improved with training.

## ABSTRACT

## A STUDY OF SELECTED CULTURAL, SOCIOLOGICAL, AND PSYCHOLOGICAL FACTORS IN THE MUSIC EDUCATION OF MEXICAN-AMERICAN CHILDREN

Douglas Edward Schoen
Washington University, St. Louis

The main objective of this study is to elucidate ways of improving public school music instruction for children of Mexican or Mexican-American descent. Specifically, the study is designed to present ways in which cultural differences and Hispanic musical heritage can be understood and capitalized on by teachers in the United States who may be working with immigrant children in their classrooms.

Chapter one states the intent and scope of the study and explains sociological terms such as Tejano, Chicano, and La Raza. Chapters two through six analyze the musical heritage of Mexico according to major cultural periods: pre-Conquest period, Colonial period, period of Independence, and Twentieth Century.

Chapter seven analyzes current trends in Mexican music education, based on direct observation of class sessions and library facilities, and personal interviews with educators in Mexico City and Puebla.

Chapters eight and nine discuss distinctive aspects of the Mexican mind-set and particular obstacles to teaching which arise from differences between typical Mexican and Anglo

life-styles.

Chapter ten offers practical pedagogical suggestions based on the information discussed in chapters one through nine. Music and dance materials for elementary and secondary school classes are presented, along with specific instructions for effectively utilizing these materials.

Chapter eleven analyzes current trends in music education with immigrant children in the United States. Results of a survey of music educators and administrators in Florida, Texas, Colorado, and California are presented. This survey deals with distinctive disciplinary problems, motivational techniques, curricula, and materials.

Conclusions in chapter twelve focus on implications of this study for the general education and the music education of Mexican-American children.

The study includes a bibliography, discography, list of record distributors, and five appendices which contain newspaper and magazine articles, definitions of Spanish musical terms, descriptions of Mexican instruments, musical excerpts for classroom use, and survey forms and questionnaires pertaining to chapter eleven.